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ABSTRACT

The long-range goal of this program was to develop a sufficient number of qualified personnel to establish and operate Individualized Manpower Training (IMT) Systems for disadvantaged and handicapped youths and adults. The objectives were to: (1) develop instructional materials and procedures using a programmed instructional process; (2) train several groups of administrators, counselors, and teachers who are involved in on-going manpower programs to use an IMT System in basic remedial education; (3) develop prototype materials for a mechanical occupational cluster, which will integrate the prevocational and occupational plan with basic remedial education in a total IMT System; and (4) conduct a continuous monitoring of the staff training program during development, assess its impact, and provide observational analysis factors which appear to be related to the success of program implementation. The products and materials prepared during the project were either completely developed or modified to fit in the IMT System. The IMT System staff were provided individualized staff training courses in the use of basic remedial guides in establishing individualized basic remedial instruction in Learning Resource Centers; in developing a diagnostic profile for each trainee; in developing an individual training plan for each one; and in evaluating the progress of the trainees. The products prepared were printed materials (5 guides and 1 programmed lesson) and tape-slide modules. The findings of the project clearly demonstrate that it is possible to train staff to establish and operate an IMT System within a short time by use of individualized instruction. (Author/DB)

ED 072316

INDIVIDUALIZED MANPOWER TRAINING SYSTEM

PHASE I REPORT

Technical Education Research Centers TERC

ED 072316

A MODEL PROGRAM TO INSTRUCT MANPOWER TRAINING PERSONNEL IN THE SELECTION AND APPLICATION OF REMEDIAL INSTRUCTIONAL MATERIALS TO MEET INDIVIDUAL TRAINEE NEEDS

Conducted by

Technical Education Research Centers TERC

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Southeast Director

Funded Under

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ABSTRACT

Title of Project

A MODEL PROGRAM TO INSTRUCT MANPOWER TRAINING PERSONNEL IN THE SELECTION AND APPLICATION OF REMEDIAL INSTRUCTIONAL MATERIALS TO MEET INDIVIDUAL TRAINING NEEDS

Project Director

Donna M. Seay

Beginning date — January 4, 1971 *Ending date — June* 29, 1972

Funding Agency

Manpower Administration, U. S. Department of Labor, Contract Number 82-25-71-10

Prime Contractor

Technical Education Research Centers, Inc.
44 Brattle Street, Cambridge, Massachusetts 02138

Goal

The long-range goal was to develop a sufficient number of qualified personnel to establish and operate Individualized Manpower Training (IMT) Systems for disadvantaged and handicapped youths and adults.

Objectives

1. To develop instructional materials and procedures using the programmed instructional process in order to train administrators, counselors, teachers, learning managers and teacher-educators in developing and administering an Individualized Manpower Training (IMT) System for basic remedial education.
2. To train several groups of administrators, counselors, and teachers who are currently involved in ongoing manpower programs to use an IMT System in basic remedial education.
3. To develop prototype materials for a mechanical occupational cluster, which will integrate the prevocational and occupational plan with basic remedial education in a total IMT System.
4. To conduct a continuous monitoring of the staff training program during its development, to access its impact, and to provide observational analysis factors which appear to be related to the success of program implementation.

Procedures

1. The products and materials prepared during the project period were either completely developed or modified to fit in the IMT System after reviewing selected staff training guides, catalogs, and programmed materials for basic education.
2. Various organizations, such as state departments of Vocational Education and Rehabilitation, Consortium of Colleges and Universities, Technical Advisory Committee and Commission on Occupational Education of Southern Association of Colleges and Schools, were involved in advising, disseminating, evaluating, and providing feedback on the implementation of the IMT System.
3. The Directors of Technical, Vocational and Trade Schools and their staff were involved in implementing an IMT System.
4. The IMT System staff were provided individualized staff training courses in the use of basic remedial guides in establishing individualized basic remedial instruction in Learning Resource Centers; in developing a diagnostic profile for each trainee; in developing an individual training plan for each one; and, in evaluating the progress of the trainees.

5. The IMT System personnel were provided technical assistance in the use of **Tests of Adult Basic Education** with follow-up technical assistance.
6. The IMT System staff were provided training in understanding how to use catalogs and guides from which staff can determine, quickly and accurately, the media relevant to a trainee's specific deficiencies.
7. A training model for mechanical occupational cluster was developed which would demonstrate core curriculum derived from task analyses, licensing requirements, employer specification and other factors affecting employability.
8. Additional materials in the areas of reading, employability behaviors and complementary skills have been developed and are ready for tryout.
9. Assessment of project achievements was made by the Southern Association of Colleges and Schools.

Products

Printed Materials

1. **Guide to Establishing the Individualized Manpower Training System.** This guide contains basic guidelines and specifications for planning and organizing an IMT Learning Resource Center. (146 pages)
2. **Guide to Operating the Individualized Manpower Training System.** This guide contains specific instructions for the learning managers and staff in managing a trainee's progress. (75 pages)
3. **The Employability Program: A Programmed Lesson.** This document contains instructions for use of Employability Progress Plotter System by which the trainee rates himself daily in areas that affect his ability to keep a job. (30 pages)
4. **Guide to Establishing and Operating the Mechanical Cluster Program in the IMT System.** This prototype contains information on a model program which demonstrates a technique for developing an individualized self-paced cluster curriculum to teach basic skills common to a number of occupations. (118 pages)
5. **Guide to Operating Complementary Skills Program.** This guide contains detailed instructions on operating a complementary skills program to provide the manpower trainee with skills in such areas as money management, credit buying, diet and health, etc. (42 pages)
6. **Guide to Operating the Sample Individualized Reading Program.** This is a sample program which demonstrates a technique for individualizing a remedial reading program. (47 pages)

Tape-Slide Modules

1. **An Introduction to the IMT System.** A 20 minute tape-slide orientation on the purpose and methods of the IMT System which provides an introduction to the staff training program.
2. **An Introduction to the Phases and Materials.** A tape-slide module with programmed workbook which describes the phases in operating the IMT System.
3. **Programmed Instructional Process and Products.** A tape-slide module with programmed workbook which contains a detailed discussion of the steps in developing instructional programs, characteristics of good programmed instruction, common formats, and an explanation of how programmed instruction is used within the IMT System to solve specific educational problems.
4. **A Case Study.** A series of five tape-slide modules with workbook used for individualized staff training. Individual modules titles are: (1) Introduction and Interviewing, (2) Testing, (3) Diagnosing, (4) Prescribing and (5) Managing and Evaluating.
5. **Trainee Orientation.** A tape-slide module which answers the prospective trainee's questions about the purpose of the IMT System, his role in the Learning Resource Center, and the fundamental differences between an individualized program and the traditional classroom learning experience.

Conclusions

1. The findings of this project clearly demonstrate that it is possible to train staff to competently establish and operate an IMT System within a short training period by the use of individualized instruction.
2. The staff training materials, as revised after tryout, are effective and require a minimum of follow-up technical assistance.
3. The search of published and research materials reveal that there is limited material available on reading, employability behavior, and other occupations which could be modified economically to fit an IMT System.
4. The review of standardized tests during this project reveals that useful diagnostic instruments are not readily available, particularly in reading. The reliability and validity of the diagnostic instruments do not seem to be very high.

Recommendations

1. A comprehensive assessment and management program is needed to provide IMT staff with criteria for judging their effectiveness and with procedures for self-management in establishing and operating the IMT System.
2. New products developed during this project should be validated. IMT staff should be trained to operate these new programs. Their appropriateness and effectiveness should be assessed under practical conditions.
3. Additional IMT pilot demonstration sites should be established to provide a significant number of staff and trainees to validate materials and to determine the System's effectiveness in different educational environments.
4. An Analytical Inventory covering all facets of the IMT System should be developed to provide complete information on the IMT System in order that potential users may determine their funding requirements for staff and facilities.
5. Greater emphasis should be placed on developing a Work Sampling Program which provides exposure to the tasks involved in different jobs to enable IMT trainees to make a realistic choice of occupational goals.
6. It is recommended that a referral system be developed to allow staff to refer trainees into the IMT System and guide them to appropriate agencies for assistance.

CHAPTER I

INTRODUCTION

There are many reasons why basic remedial education and employability programs for the disadvantaged and handicapped are the major challenge in American education today. On a practical level, our complex modern society **needs** the latent abilities of the disadvantaged that can be developed through education. A progressive society cannot function at maximum efficiency unless all of its citizens are productive. More importantly, a basic assumption of our society has always been that the dignity of any man must not be eroded by ignorance.

Lack of basic educational skills and undesirable behavioral patterns are the most universal characteristics of the disadvantaged that cause lower earning power, higher rates of unemployment, more dependence on public welfare, higher risk of losing a job, and ineligibility for many vocational and technical retraining programs.

Thus, the disadvantaged represent not only a tragic waste of human beings, but a threat to American society. They might be compared to blind Samson chained to the main supporting pillar of his oppressors' temple who, with the last of his remaining strength, pulled the whole temple down upon himself and them. Unless the disadvantaged are provided with the educational tools to break the chains of ignorance, they can weaken the economic and social pillars supporting the society. Immediate, forceful, thoughtful action is necessary to avert such a catastrophe.

There is a growing realization among all authorities — sociologists, educators, and government officials — that the population of the disadvantaged is increasing rapidly, especially in the cities. It is estimated that disadvantaged and handicapped pupils will soon comprise fifty percent of the public school population in many metropolitan areas and cities.

The significance of such figures is that a growing number of individuals in American schools cannot profit from the existing educational process. The present-day public school systems of America are geared to meet the needs of middle-class America. In such a system, middle-class values, customs, ideals, and patterns of social behavior prevail, often to the detriment of disadvantaged and handicapped individuals. Students unable to accept the values which the system assumes fall behind the peer group and enter a cycle of failure which is impossible to break within the system which caused it. Thus a student not predisposed by his culture to work for future rewards, for example, will become a casualty to the system which makes little allowance for deviation from the norm. He will fall behind, be identified as a failure, develop a hostility toward intellectual tasks, and eventually be classed, with others who have "failed" in the traditional system for a variety of other reasons, as "disadvantaged."

Other "characteristics" of disadvantaged students are similarly indicators of a mismatch between the student's individual learning habits or values and the learning environment which society has provided.

Lists of characteristics which attempt to describe the disadvantaged list only those characteristics of students who have entered this cycle of failure. We are told that the disadvantaged:

- — have exceedingly short attention spans
- — feel rejected by society
- — have poor self-concepts
- — exhibit erratic academic performance
- — are overly aggressive
- — do not adhere to the values of the dominant culture

Few of these go to the root cause of the student's problem because it is assumed that these sudents must be rehabilitated through some form of the traditional educational process. Clearly, what is needed is a **new** system which is flexible and individualized to the student's needs. It should provide what the present system does not — relevant incentives for learning and a positive-oriented environment in which peer pressure cannot force a student into a cycle of failure.

In a program for disadvantaged adults, the focus should be on preparing the individual for productive participation in society. This means providing training for living responsibility in a society which has rejected him and for building confidence in his ability to succeed, as well as training toward satisfactory employment.

The Nature of the Problem

The ultimate goal of any manpower training program must be to assist individuals in attaining satisfactory employment. In a program for the disadvantaged the crucial problem is that of removing the educational deficiencies which effectively bar them from admission to training for higher levels of employment. However, such a program faces a number of other perplexing problems. In most cases the trainee has experienced failure in a traditional learning environment and lacks confidence in his ability to learn. He has no clear occupational goal or familiarity with the world of work and often doubts that a job will be open to him even after training. In addition, many disadvantaged individuals have developed poor work habits or attitudes which make them unattractive to employers.

Growth of Programs for the Disadvantaged

Since 1960 there has been a growing concern with programs to educate the disadvantaged and particularly with manpower training programs for older youths and adults. Early programs learned that if "creaming" was to be avoided, basic remedial education had to be offered before occupational skill training could become effective. Thus basic remedial education has been offered in a variety of forms in manpower programs offered by various educational agencies. It is estimated that $40 million or more is spent each year in such programs by the Department of Labor alone.

Results Are Unclear

Actually, little is known about these programs in terms of their effectiveness and efficiency. The overall view tends to yield a picture of great eclecticism in materials and methods used. Widely differing claims of effectiveness are made, but with little validating evidence or even comparability of terms from which validative judgments might be made. While there is general recognition that basic remedial education should be more closely integrated with prevocational and occupational training in a mutually reinforcing system, this is often a stated ideal rather than a demonstrated accomplishment. Meanwhile, both the software and hardware proliferate on the market — some good and some inferior. Discrimination in choice of materials has not kept pace, so that responsible administrators and teachers may be excused for not knowing how to proceed — whether to rely on materials with which they are familiar or to go forward with a crude trial and error approach in the jungle of materials offered for sale.

Why Many Programs Are Unsuccessful

The reasons most programs have not been as successful as one might wish are as numerous as the programs. However, some factors stand out in accounting for unsuccessful programs:

1. **Irrelevant Content.** Many methods and materials used in programs have been ineffective modifications of traditional methods and materials which have not worked with disadvantaged persons in the past. Individual educational deficiencies have not been provided for in such programs. Students are not viewed as individuals with special problems and possessing unique individual differences that have to be handled on an individual basis. Also, many programs depend on instructional materials developed for other users. The content of materials that might appeal to children has very little, if any, appeal for youths and adults.

2. **Weak Incentives.** Trainees are not given meaningful incentives for learning. They are not exposed to challenging experiences which stimulate their thinking and provide motivation to change behavior patterns.

3. **Unclear Goals and Objectives.** Often the goals are too broad in terms of upgrading employment potential or making people more ready for the real world of work. These are worthy, but there should be individual training plans and behavioral goals set, measurable attainment and performance factors specified on actual usage and application.

Recognizing the shortcomings of traditional approaches in teaching the disadvantaged and accepting the challenge of educating the disadvantaged does not guarantee success.

Two problems need to be solved in order to succeed in teaching the disadvantaged: Effective individualized instructional materials must be developed for a design population of disadvantaged youths and adults. Secondly, a corps of professional staff who have the training, knowledge, and tools to work with the disadvantaged must be trained and placed in positions where they are able to further refine the system and train others in these techniqus. Research and development projects which are producing individualized instructional materials and trained staff who can systematically utilize the materials must be encouraged to continue in their efforts to solve these problems.

An Individualized Manpower Training System is Needed

The difficulties encountered in many programs currently available to the disadvantaged and/or handicapped enable us to define an ideal system which:

1. Consists of relevant instructional materials
2. Is highly individualized to meet specific learning deficiencies and needs of the individual
3. Enables the trainee to use his time and talent to maximize his abilities in minimal time
4. Includes the use of incentives which are relevant and meaningful to the individual
5. Allows the trainee to enter the program at any time and to progress as quickly as his abilities and his other responsibilities permit him

Toward An Individualized Manpower Training System*

Manpower Programs: A Proving Ground for Instructional Innovation

For some time now, manpower agencies have realized that we can and should meet the shortages in critical occupational skills by training those individuals who have not responded to conventional educational and vocational programs. The training programs developed under the Manpower Development Training Act and other national legislation have therefore focused on the needs of such students. These programs have fostered a number of innovations in occupational training which may have significant impact in other spheres. First, the rigid time frame of the school semester has been broken, and a manpower program may start at any time. Second, the student may progress at his own pace. Better students go considerably faster than they would with conventional training methods. Slower students are never subjected to the peer pressure and the sense of failure that might destroy their motivation. When related classroom instruction or basic remedial education is required, it is conducted concurrently with (and parallel to) the skill training to demonstrate its relevance.

To make sure that students are trained to meet industry's specifications, the staff includes experienced tradesmen as well as educators. More opportunities have been made for paraprofessionals and competent craftsmen to augment the teaching staff whether or not they are certified by educational authorities.

We are not trying to imply that these innovations are as widespread as they should be, or perfected as much as they might be. Nevertheless, manpower programs have continued to offer a favorable arena for testing innovations that have considerable implications for education and training beyond their own spheres.

The Mandate for Manpower Programs

Manpower programs serve a social mandate that puts a new urgency into an educational goal. Garth Mangum has called it the "Zero Reject" principle, after the aerospace industry's "Zero Defect" slogan for quality control. In manpower, however, the product is the competently trained individual, and not a functioning rocket or other piece of hardware. If anything, this human product makes the problem more complex.

* A portion of this report is excerpted from the paper "Toward an Individualized Manpower Training System" prepared by Dr. Charles W. Phillips, Program Specialist, U. S. Department of Labor and Mrs. Donna M. Seay, Project Director and Southeast Director, Technical Education Research Centers. The paper describes the concepts and objectives of the project and was written on the basis of their personal involvement in and observation of the Individualized Manpower Training System.

The zero reject concept materialized slowly because the main clientele for manpower programs were those who had failed in, or had already been rejected by, the regular school systems. What these regular systems did for most people was usually adequate. Nevertheless, a sizable minority either dropped out or did not learn enough to achieve any viable economic opportunity. The social mandate dictates that these people **cannot** be left unemployed or underemployed simply because they did not acquire sufficient educational or vocational skills in school. They **must** be given the training or education to become self-supporting and to reach an adequate standard of living; and if one method of doing it does not work, another must be found that does. In other words, we cannot settle for an educational system that relegates any sizable number of individuals to the lower end of the bell curve that consigns them to employment oblivion. Both the emerging adult education system and the trainee are viewed as being equally responsible for adequate trainee progress and improvement. The system must therefore become accountable in a way it never has been before.

The dropout rates in manpower programs are still far too high to claim success in fulfilling their new mandate; but this mandate is being recognized and accepted more and more. Further, the direction that manpower programs must follow to succeed is more clear: It is toward the most efficient and cost-effective ways of individualizing instruction.

Training Must Be Individualized

Manpower leadership has learned that the groups to be retrieved—most of whom are "disadvantaged" —are **not** homogeneous beyond the common attribute of poverty. They have a variety of educational deficiencies, and they differ significantly within their social and economic groupings. To insure success in training and motivation, we must approach each trainee through his individuality. No section in American education has developed a systematic way of doing this. The standard, and time-honored way, is to present blocks of material (mostly in a didactic manner) to blocks of people in "classes." These people are tested occasionally to produce scores of relative success or failure, yet these scores have little relation to the student's ability to achieve specified goals. They simply indicate the student's standing within the group. The student is rarely given feedback explaining an error or how he might correct it. For many, the system has had a built-in failure factor, and even those who pass have seen no evidence of proficiency. Insofar as motivation and behavior management are concerned, the traditional approach is negative . . . Thou Shalt Not!

For both efficiency and effectiveness, educational and motivational methods for the under-achiever need greater individualization than this. The need has become obvious, but the concept of individualization and the means to implement it have grown slowly. Although many have accepted the concept, little is available about implementation.

Individualized Instruction and Motivation System: What It Is Not

The effort to individualize instruction and motivation is not confined to manpower programs, but we need more clarification about what individualization means. Because many misconceptions have grown, it is helpful to say what it is **not** before saying what it is.

First, individualized instruction is **not** defined solely by the use of programmed instructional materials. Some individualized systems do depend heavily on such structure and do require programmed instructional materials that have been rigorously developed and field-tested. For such systems, it is often necessary to create programmed materials where they do not exist. Nevertheless, the mere use of programmed materials is not the distinctive feature of individualized training, and an improper use or dependence on them can be self-defeating.

Individualized instruction and motivation does **not** mean the provision of a low student-staff ratio merely so that a teacher can spend more time with indiviudals. Although a learning manager or an aide in an individualized system has time for more individual assistance or tutoring, the distinctive feature lies in what the staff **does** with the time.

Individualization is **not** simply letting the student decide what studies he will take, and when, and how much time he will give to them. In an individualized system he sets his pace and to some extent chooses

what he takes. This latter choice, however, is built on a discussion of his objectives and an analysis of learning strengths and weaknesses identified by testing.

Less structured approaches are sometimes adopted in the name of "individualizing" instruction. Examples are providing more "free exploring time," "more rap sessions," or "more student government."

Finally, with motivation and behavior management, individualization is **not** a matter of pep talks and discussion of "why you ought-to want-to," even if this is done on a one-to-one basis.

Individualized Instruction and Motivation System: What It Is

A functional individualized instructional system is first of all a system: the linking of a number of different operating parts. It is a coherent whole, intended to train each individual to the maximum proficiency his abilities will permit; and this is generally accomplished in the shortest possible time. Whereas, a serial listing of the main components will not give enough sense of their interactions, it may give clues about the theory involved. An individulaized system demands the following:

1. **Goal-Setting** — Goals are set according to the individual student's specific needs. This means that a goal-setting program is needed to help the individual select achievable goals that have relevance and motivational value to him.

2. **Individual Diagnosis** — What a student knows and does not know in any given area in which training is to take place is diagnosed in terms of specific skill abilities. Proper diagnosis in terms of observable performance is first and fundamental.

3. **Individual Prescription** — Each student is prescribed for individually. This will be the design of a course with realistic objectives, prescribed activities, and materials to correct diagnosed **deficiencies.** It should **not** teach what he already knows. The prescription will be a logical sequence of learning activities in which the student learns in his own "learning style" and at his own rate, and he uses his own experiential background. In developing the prescription, attention must be given to the individual student's motivation and goals. What may be a deficiency for one student may not be a deficiency for someone whose goals are different. This is why goal-setting is an essential preliminary step to diagnosis.

4. **Individual Evaluation** — This must be a frequent and continuous process. In a conventional classroom, the students may take a test. Then their scores are generally compared to identify who passed and who failed. In an "individualized system," each student is tested only in terms of **his own** progress and accomplishment, and **not** those of the group. **His** mastery or the correction of a limited range of his own deficiencies is the absolute norm for him. The evaluations are more frequent and are oriented toward the objectives he is trying to accomplish. The individualized evaluation covers only the skills and knowledge the individual learner has studied and practiced.

   With frequent evaluation, feedback is immediate on what is wrong or right, and why. The student's performance at each checkpoint determines whether he should repeat his module of study or advance to the next step. The test does more than just evaluate performance: It is a formative tool that is used to guide and ultimately will guarantee his success. In this sense, there are no failures, although some students may progress more slowly than others.

5. **Learning Materials** — Materials must be available which can be used independently and are correlated with specific objectives. If individualized instructional programs do not exist, they may have to be developed. Until suitable materials become available, particularly in mathematics and the language arts, the implementation of an economical individualized system of training is handicapped. The form of the individualized materials may vary greatly to include films or any other media that lend themselves to independent study. Unfortunately, there are still major limitations in various areas. (More will be said here about these.)

6. **Individualized Pacing** The student determines his own rate of progress. Two factors will primarily govern his speed: **innate ability** and **motivation.** A brighter, more motivated student can move at an accelerated pace. He will make a contract with his learning manager and then proceed as fast as he can to master each prescribed module. A less able or less motivated student will progress more slowly. However, neither student will be compared with the other, but only against his own previous performance. Except for some students of very low innate ability (who perhaps need some other types of corrective services), motivation is helped if the possibility of failure is reduced radically. The learning manager does not permit a student to "bite off more than he can chew" until he gains enough confidence to take risks and handle the knowledge of his limitations. Initially, the student is practically guaranteed success for any effort at all. This initial success breeds confidence and motivation to achieve more.

7. **Individual Management** The student's whole program must be individually managed. In a manpower program, for example, a student is engaged in many general areas of study at the same time: basic remedial education; employability and occupational skills development; and related or theoretical instruction. There is usually a strong counseling program and provisions for group interaction activities. The different areas must be managed to the best advantage for each student. Usually the goal is to permit maximum time in the occupational skill training as soon as possible, with only those loops back into other motivational and instructional activities that are necessary. This demands a maximum coordination of counseling and training staff.

These are the main elements in the individualized instruction system. Because each element requires that the staff member master certain methods and materials, the total "system management" may appear to be quite complicated. However, system management is **not,** in fact, beyond the capabilities of most groups who are now responsible for manpower programs. We can defer for now the problem of where the difficulties are to ask what we can expect of an individualized system and what evidence there is that these expectations can be achieved.

The Expected Results of an Individualized Training System

1. **The dropout rate will be lower.** Ideally, dropouts would be eliminated entirely. But an individualized system is not completely mechanical: It depends on humans. A more realistic expectation is to close the dropout gap significantly. Mostly this will result from stimulating motivation, providing intensive personal attention in learning situations, and adjusting instruction to the student's "learning style."

2. **The better able and more motivated student will complete training more quickly.** There will be fewer constraints within the system to slow him down. Time need not be a factor, since progress is measured by accomplishment. Testing will determine the individual's proficiency rating.

3. **The less able student may take longer, but he will succeed.** The basics must be mastered. Furthermore, the less able student (whose goals are different by design) may structure contracts considerably different from those of other students. For example, since math and language requirements vary greatly from one job level or occupation to another, student needs will be highly variable too.

4. **Although the costs of initiating the program are usually high compared with the costs of traditional lecture methods, savings are possible in staffing, faster student progress, the ability to serve more students in a given period of time, fewer dropouts, and especially by the redistribution or reallocation of staff and resources.** The amortization cost on a per student basis of basic establishment and maintenance can be made very moderate.

From what we have said, we can derive further expectations: Greater employability of the potential employee from the employer's point of view; a worker with greater capability to advance on the job, and one more likely to have staying power in the job market. The program should produce individuals who are more confident and are better prepared for the labor force.

The Bases For These Expectations

The current project is the first large project we know of that will gather broad data on these expectancies. However, we have also learned much from the years of experience in programmed and individualized instruction in the military and in industry. Furthermore, the current project builds on a number of experiments in manpower. So, there are good reasons and sound justifications for believing that a properly structured individualized training system will achieve its ends.

The present project has already yielded gross judgments on the reasonableness of cost. Each of the five sites in which staff training has just been conducted had to provide the basic space, equipment, and environmental arrangement for a "learning laboratory"; a staff (which usually included paraprofessionals) at a ratio of one to ten students; a basic library of materials; and certain other minimal equipment. This had to come from their regular operating budgets and is not part of the research and development funding of this project. Pragmatically, the cost issue may be said to have been settled by the buyers. In some places, adequate space adjustments were rather easily made; much equipment was already available and also enough staff. In other places, additional investment was needed to finance the operation. Costs have ranged from less than $10,000 to somewhat over $60,000. The higher figure (Lewis M. Lively Area Vocational-Technical School, Tallahassee, Florida) paid for a large portable unit, which had to be brought to the campus and remodeled extensively to become the core learning center. At most locations, however, the costs have been moderate, bearable, and mostly in initial equipment costs designed for long-term usefulness.

Apart from economic or emergency pressures (for which supportive service must be designed in any program), trainee dropouts occur primarily among those who are poorly motivated or who see no relevance to their goals in their education or training program. An individualized system attacks those problems more directly than any other; it avoids the abstract or the general. The service is structured in a concrete form, tailored specifically for each individual: In short, a precise training plan for satisfying his goal. Nothing is assigned that is not relevant to this goal, and this relevance is made clear. The student's progress toward his goal is measured daily. He may fail a given progress test, but this failure is normally only a temporary impediment and usually he can be guided quickly to success. This is an important reinforcement of student effort. In the basic remedial, pre-vocational, occupational, and counseling areas, many forms of positive motivational techniques are applied to insure success for both the individual and the program, to establish a new educational "zero defects" production program.

Trainers who have the most confidence in this theory—that intrinsically more able and motivated students progress faster, and that the less able can still succeed (and even elect different goals)—have mastered and succeeded in the Socratic approach to learning. They have worked extensively with programmed instructional materials, and they have learned to use them properly. These people have experienced the results noted. Obviously, such techniques require a degree of learner involvement and interaction in a tutorial setting, which is not often seen or even considered possible in a traditional teacher-directed and group-paced instructional setting.

There are no instances to report of randomly selected and matched experimental and control groups that would allow the group results to be compared with an individualized system or any other kind of program design. Nor do we propose such a comparison right now. However, there is a growing body of experience and data from the military and industry to illustrate the benefits of such a system in terms of cost, time, efficiency, and learner proficiency. Learning theory also states that individuals should be approached through the uniqueness of their learning styles and interests, and that positive reinforcement or reward is an effective accelerator. We cannot argue with the theory. What educators want to know is how to handle individuals in groups. The question is whether the state of the art has advanced enough for a program whose results will be self-validating compared with traditional programs. Unfortunately, many programs are still anchored to the same blocks of material; presented to heterogeneous classes; administered in fixed periods of time; and designed to assess students in some graduated way, or even on "pass/fail."

Results Expected From the Current Project

The primary goal of the project is to train the staff; the secondary aim is to survey materials and develop them. In this last area, we expect to pinpoint directions and to express new methodology. If properly guided and assured of a source of trained staffs, private enterprise is expected to respond by providing the diagnostic and training materials to be used in the IMT System. These results are also expected to en-

courage the expansion of individualized instructional systems, which, in turn, should increase the demands for appropriate materials and diagnostic instruments.

In summary, individualized manpower training systems could provide the work force with a large number of trained youths and adults. Industry would benefit from the availability of a previously unused source of competent personnel. It is suspected that the largest impact would be social.

The IMT System, which is being developed by the Southeast Technical Education Research Center, is designed to fulfill these objectives. Overall, this system is based on the assumption that a "Zero Reject" program is more attainable when we recognize that failure is often the result of the system and/or the misplacement of the individual in the system. So far, the IMT System's most significant contribution is that it moves away from the traditional failures and toward motivating and training those who have not previously been prepared for a suitable career. Its potential for social impact is still beyond the scope of our imagination.

Cooperating Agencies

Many agencies throughout the Southeastern states cooperated in this project. The representative members cooperating in this project were of varied background and experience. They were comprised of state vocational and rehabilitation departments, teacher educators of various institutions of higher learning, representatives of professional associations, members of the Departments of Labor and of Health, Education and Welfare, working at all levels, and certain other experts in the area of behavioral sciences. All these people share a common goal of providing adequate training to the disadvantaged and handicapped.

Consortium of Colleges and Universities

The Consortium of Colleges and Universities (CCU) was comprised of the following representatives: Dr. Robert Couch, Dr. Edward Kurth, Mr. Tom Gannaway, and Dr. Robert Montgomery, Auburn University at Auburn, Alabama.

Dr. Stephen W. Brown, Auburn University at Montgomery, Alabama.

Dr. Herbert G. Alexander, Florida A & M, Tallahassee, Florida

Dr. Clyde Walker, Georgia State University, Atlanta, Georgia

Dr. George T. Stephens, University of Alabama, Tuscaloosa, Alabama

Dr. Joe Hammock and Dr. J. Marvin Robertson, University of Georgia, Athens, Georgia

Dr. S. E. Russell, University of North Florida, Jacksonville, Florida

Dr. James Selman, University of South Florida, Tampa, Florida

Professor Joe Reed, University of Tennessee, Knoxville, Tennessee

Dr. Hobdy Perkins, University of West Florida, Pensacola, Florida

The members of CCU aided in the development of procedures and processes for utilization of the materials. The specific responsibilities of the membership of the consortium were to:

1. Provide assistance in planning for project implementation.
2. Recommend individuals with expertise in the areas where special assistance was required.
3. Consider and discuss any new or innovative ideas from members of the Consortium or project staff.
4. Assist in formulating the assessment procedures.
5. Advise staff on the utilization plans for teacher educators.
6. Send teacher educators to pre-service and in-service training sessions and practicums.
7. Include the staff training program in their respective teacher education curriculum if program proves to be effective.
8. Conduct institutes or workshops to promote the utilization of an IMT System.
9. Conduct training programs for operating staff in an IMT System.
10. Sponsor pilot demonstration of basic remedial education in an IMT System.

Technical Advisory Committee

The Technical Advisory Committee (TAC) consisted of the State Directors of Vocational Education and Vocational Rehabilitation for the states of Alabama, Georgia, Florida and Tennessee. It also consists of representatives from the American Vocational Association, Department of Health, Education and Welfare, Area Manpower Instruction Development System (AMIDS) and Department of Labor. Their representation was at all levels from state, regional and national. Their names are given in Appendix C.

TAC, or their liaison, assisted the project staff by advising and providing feedback on the materials prepared by TERC staff. They also assisted in the dissemination of IMT System programs to local school directors, professional workers and other concerned officials engaged in vocational education, vocational rehabilitation, and manpower development programs.

Southern Association of Colleges and Schools

The Southern Association of Colleges and Schools (SACS) is concerned with the improvement of educational quality and conducting research on vital issues confronting the education system in the United States.

SACS was given the subcontract in order to provide continuous monitoring, analysis, and assessment of the staff training program. SACS appointed one staff person designated as "Research and Assessment Coordinator." This staff person was involved in planning and implementing procedures for monitoring the developmental phase and for the analysis and assessment of the demonstration and utilization phases.

SACS staff was represented in activities involving the Consortium of Colleges and Universities and the Technical Advisory Committee. The Research and Assessment Coordinator was responsible to the Executive Secretary, Commission on Occupational Education, Southern Association of Colleges and Schools.

The primary responsibilities of the Research and Assessment Coordinator were:

1. To continuously monitor the activities of the project staff in order to develop full knowledge with all aspects of program development of IMT System.

2. To develop assessment procedures in cooperation with project staff.

3. Develop and/or select assessment instruments suitable for basic remedial education as it relates to the IMT System.

4. To train staff in collecting appropriate data, analyze data for presentation and interpretation.

5. Write interpretative reports recommending revision for improvements in and expansion of staff training materials. These reports were to be written periodically whenever needed but were required after every quarter until the expiration of the project period.

6. To establish criteria for assessing the total components of the project and to write the final report relative to this assessment.

7. To analyze the results of the various pilot demonstrations and workshops with assistance from TAC and CCU for the purpose of assessing the effectiveness of the staff training. Appropriate recommendations were to be made periodically for necessary revisions and improvement of staff training programs.

8. To assist in the activities involving CCU and TAC and making arrangements for the conferences and workshop sessions of CCU and TAC.

9. To provide technical assistance to the Principal Investigator of the project relative to improvement of the project.

CHAPTER II

PURPOSE AND PROCEDURE

The long-range goal of this project is to provide a sufficient number of personnel qualified to establish and operate the IMT System for disadvantaged and/or handicapped youths and adults. In order to achieve this long-range goal, the specific objectives of this phase were:

1. To develop instructional materials and procedures using the programmed instructional process in order to train administrators, counselors, teachers, aides, and teacher educators in developing and administering an Individualized Manpower Training (IMT) System for basic remedial education.

2. To train several groups of administrators, counselors, and teachers who are currently involved in ongoing manpower programs to use an IMT System in basic remedial education.

3. To develop prototype materials for a mechanical occupation cluster which will integrate the prevocational and occupational phase with basic remedial education in a total IMT System.

4. To continuously monitor the staff training program during its development, to assess its impact, and to provide observational analysis factors which appear to be related to the success of program implementation.

In fulfilling the project objectives we were concerned with two principal areas: (1) materials and (2) staff development for using them.

Materials

Review of Available Materials

Prior to developing products and staff training materials, TERC staff conducted a thorough review of the products and related materials of Individually Prescribed Instruction (IPI) Systems. The following principles related to programmed instruction and taken largely from Skinner, Crowder, Klaus, and other experts in this area served as guidelines for the review:

1. **Careful investigation of the learner's beginning repertory.** What can the student do already?

2. **Precise determination of the desired behavior.** What exactly do we want the student to be able to do at the end of the instruction?

3. **Ruthless discarding of the irrelevant.** What are we including that the student does not really need? Are we letting our interests or thinking habits determine what the student should learn?

4. **Thorough planning of the learning sequence rather than the teaching sequence.** Are we disregarding traditional habits of subject organization? In what order will the student learn it best?

5. **Small steps, carefully leading the student through the learning process in easy stages.** Are we leaving out any explanations because they seem "obvious" to us?

6. **A planned strategy of repetition.** How many repetitions, of what kinds, at what points, do the students need?

7. **Revision of the draft at every point of difficulty, boredom, confusion, etc.** Exactly where and how did we fail to help the student to learn?

8. **Accept the burden of assisting students.** What must we do to assure our students that they will all learn this perfectly?

9. **Respect for accuracy.** Is instructional material we are providing really true? Have we checked the accuracy of our sources?

10. **Fidelity to objectives.** Should we ever be satisfied with a 75% score on a test? Which 25% is unimportant?

IPI materials reviewed were those which were produced under the Manpower Development and Training Act of 1962, as amended, the Economic Opportunity Act, the Elementary and Secondary Act. Examples of IPI materials reviewed, revised, and used include those from the Draper Projects, the Oakleaf Project, the Washington, D. C. Job Corps, Research for Better Schools, and the North Carolina Learning Laboratory at North Carolina State University.

The Rehabilitation Research Foundation (RRF) made a basic breakthrough in individual prescription in its programs at the Draper Correctional Center, Elmore, Alabama. The Draper Projects used programmed instruction combined with contingency management techniques. In developing their IPI System, the RRF prepared self-instructional lessons, guides, and catalogs. The basic elements used to prescribe language and math at Draper are being extended in the Individualized Manpower Training System — representing an effort to generalize the principles over a broader area of occupational training for both youths and adults.

The Oakleaf Project is an IPI System operated by Learning Research and Development Center, University of Pittsburgh. The program is designed for children from grades K-6. Techniques used in this system were modified wherever possible to fit an IMT System for adults.

The Washington, D. C. Job Corps used the PRIME model developed by Westinghouse Laboratories. This system used Prescription, Reinforcement, Instructional Management, and Evaluation in providing a learning environment. Many of the available PRIME materials were reviewed.

The project staff reviewed related materials developed by Research for Better Schools and by other public and private learning laboratories for individualized instruction. Wherever possible, these techniques and materials were modified and compiled to be used in an IMT System for disadvantaged/handicapped youths and adults.

Materials Adapted for Use in the IMT System

The two kinds of materials which are necessary in an individualized system are: (1) diagnostic instruments and (2) instructional materials geared to specific skill deficiencies.

Diagnostic Instruments

In the fundamental subjects of basic education and communication and computation skills, some functionally adequate diagnostic instruments are used to measure skill deficiencies in a broad range of areas. Testing is very much a developmental art, and improvements are constantly being made.

Several standardized tests, such as the **California Achievement Tests** and the **Metropolitan Achievement Tests**, were used originally by the RRF. The limitation of these tests were that they were not adult oriented. The RRF adopted the **Tests of Adult Basic Education** (TABE) which were found to be more suitable to the kind of trainees served by this project. Its major usefulness is in the development of a diagnostic profile that identifies strengths and weaknesses for a particular goal. For example, a student might have most of the math skills required for a given cluster of jobs he is training for. He may also have a weakness in fractions or decimals at the level required for the job. It is critical to be able to pinpoint such skill weaknesses if functional manpower programs are to succeed.

In order to benefit from the language and math prescribing catalog developed by the Foundation it was necessary for TERC to use the TABE also. The TABE is published by CTB/McGraw-Hill, Del Monte Research Park, Monterey, California 93940 ((c) 1970). The authors of the TABE are E. W. Tregs and W. W. Clark. Permission to use the TABE was obtained from the publishers.

Tests of Adult Basic Education. The TABE series is a complete system for listing adult achievement in the basic skills of reading, arithmetic, and language. It is based on a modification of three levels of the **California Achievement Tests.** Adult content was substituted in some items which made the series useful

for obtaining pre-instructional data on an adult's basic skills abilities; identifying areas of weakness in the skills areas; measuring progress in the skills areas after a definite period of instruction; involving the individual in the analysis and evaluation of his learning difficulties; and facilitating preparation of remedial programs. The series consists of tests of three levels, **Easy, Medium,** and **Difficult,** and includes practice exercises and a locator test. Grade placement norms are provided in the manual. According to the Educational Testing Service, Princeton, New Jersey, the reliability and validity data are not available.

The **Practice Exercises and Locator Test,** a specially developed set of TABE materials combined in a single booklet, is administered initially in order to determine the appropriate level of TABE. Practice exercises, which require approximately 20 minutes, are designed to provide experience in making answers to the objective test items on separate answer sheets to develop some test taking sophistication and to minimize the effects of diverse levels of experience in the use of objective tests and separate answer sheets. The Locator Test is a short vocabulary test used to determine the appropriate level of TABE for each individual. Administration takes approximately 10 minutes, and the test is quickly and easily hand scored. Cut-off scores for each level of the series are provided.

TABE Level E (Easy) is intended for use with adults who have severely limited educational experience or culturally disadvantaged backgrounds. Level of educational ability is equivalent to grades 2 to 4. Assessment of the skill areas of arithmetic and reading is emphasized, since these are the areas of greatest concern at this level. Reading Vocabulary, Reading Comprehension, Arithmetic Reasoning, and Arithmetic Fundamentals are the subtests included. There is no language subtest. Administration of the complete test requires approximately 100 minutes. Level E does not yield a total score, only subtest scores.

Level M (Medium) is an adaptation of the Elementary level of the **California Achievement Tests** while **Level D (Difficult)** is an adaptation of the Junior High School level. Two forms are available at each level. Both include six tests in three major skill areas: Reading Vocabulary, Reading Comprehension, Arithmetic Reasoning, Arithmetic Fundamentals, Mechanics of English, and Spelling. Amount of emphasis placed on each subtest varies according to the level of the test. Separate and total scores are provided.

The project staff is aware of the limitations of the TABE as a diagnosing instrument and the staff is still looking for a better diagnostic instrument, particularly in the area of reading. The lack of data on the validity and reliability of the TABE instruments is another shortcoming in making judgments on pre- and posttest results. But at the present time the TABE is the only standardized test that meets the project's specifications for a screening device. An inexperienced learning manager at least knows where to begin by using the TABE and module pretest results.

Instructional Materials

Fortunately, a variety of publishers are creating adequate materials in the fundamental areas that are in the form of programmed learning modules. These are designed to attack different deficiencies at many different levels. Again, developmental work is continuing, and there is an adequate variety available for program implementation. But here a crucial problem must be solved before individualized programs can be used successfully. This problem is how to link the programmed materials to diagnosis so the right prescription can be made for each individual. It is at this point that perfectly good programmed lessons have been poorly used or misused, so that some people have become disillusioned and critical.

Prescribing for diagnosed difficulties. In the IPI System developed by the RRF, the items missed on the basic diagnostic tests are translated into a Modular Analysis of Learning Difficulties, which is, in turn, keyed to a Prescribing Catalog. This enables a learning manager to identify the modules of instructional material that should be assigned to deal with the specific difficulties of each trainee. Using a simple coding of each learning difficulty, the learning manager can then sequence the instructional modules to form a prescription. This systematic procedure operates smoothly. For basic mathematics and language arts, materials and management techniques have now reached an effective, usable level.

Although basic math and language arts are usually needed in manpower training, especially for the disadvantaged, they are by no means the entire spectrum. There are the very important areas of reading development, a wide range of vocational skills concerned with personal and social skills development, knowledge of the world of work, and the all-important specific occupational skill training itself. There is also the personal counseling component, which branches off from a basic program of occupational choice

and goal-setting. Work sampling is viewed as a training vehicle; it is also used as an instrument to diagnose skill deficiencies and as an occupational exploratory or "exposure" experience.

The quality of diagnostic instruments in these areas is less than adequate, and the range of materials for individualized instruction is far less broad. Much work has to be done here, and also in developing a catalog of materials from which the staff can make reasonably confident prescriptions. But even with these drawbacks, the time is ripe for a significant effort in establishing the individualization of a total system of manpower training and for important breakthroughs in practice.

Materials Developed for Use in the IMT System

TERC staff prepared the following materials for planning, establishing, and operating the Individualized Manpower Training System. Detailed descriptions of these materials are given in Chapter III of this manuscript. The full printed materials have been submitted to the Department of Labor under the contract of this project.

Printed Material

1. **Guide to Establishing the Individualized Manpower Training System.** This guide contains basic guidelines and specifications for planning and organizing an IMT Learning Resource Center. (146 pages)
2. **Guide to Operating the Individualized Manpower Training System.** This guide contains specific instructions for the learning managers and staff in managing a trainee's progress. (75 pages)
3. **The Employability Program: A Programmed Lesson.** This document contains instructions for use of Employability Progress Plotter System by which the trainee rates himself daily in areas that affect his ability to keep a job. (30 pages)
4. **Guide to Establishing and Operating the Mechanical Cluster Program in the IMT System.** This prototype contains information on a model program which demonstrates a technique for developing an individualized self-paced cluster curriculum to teach basic skills common to a number of occupations. (118 pages)
5. **Guide to Operating the Complementary Skills Program.** This guide contains detailed instructions on operating a complementary skills program to provide the manpower trainee with skills in such areas as money management, credit buying, diet and health, etc. (42 pages)
6. **Guide to Operating the Sample Individualized Reading Program.** This is a sample program which demonstrates a technique for individualizing a remedial reading program. (47 pages)

Tape-Slide Modules*

1. **An Introduction to the IMT System.** A 20 minute tape-slide orientation on the purpose and methods of the IMT System which provides an introduction to the staff training program.
2. **An Introduction to the Phases and Materials.** A tape-slide module with programmed workbook which describes the phases in operating the IMT System.
3. **Programmed Instructional Process and Products.** A tape-slide module with programmed workbook which contains a detailed discussion of the steps in developing instructional programs, characteristics of good programmed instruction, common formats, and an explanation of how programmed instruction is used within the IMT System to solve specific educational problems.
4. **A Case Study.** A series of five tape-slide modules with workbook used for individualized staff training. Individual module titles are: (1) Introduction and Interviewing, (2) Testing, (3) Diagnosing, (4) Prescribing and (5) Managing and Evaluating.
5. **Trainee Orientation.** A tape-slide module which answers the prospective trainee's questions about the purpose of the IMT System, his role in the Learning Resource Center, and the fundamental differences between an individualized program and the traditional classroom learning experience.

In addition to the above, certain other materials like concept papers and presentations were prepared. These materials are being used as a basis for further development of the work sampling and the exploratory programs which are being added to the IMT System.

* These materials are available in TERC's office.

Staff Development

Staff development is the major objective of the current project. This is primarily a training project — training the staff of four training centers to operate an individualized instructional system that uses the process of diagnosis, prescription, management, and evaluation of the Individualized Manpower Training System. Another major objective is to train the staff to establish sub-systems that satisfy the functional needs of the overall system for space, facilities, and staff.

Selection of Demonstration Sites

Five pilot demonstration sites, three new and two already operating, were selected for tryout and implementation of the IMT System programs. In order to establish these sites, several contacts were made. The State Directors of the Department of Vocational and Technical Education of Alabama, Georgia and Florida were contacted. They were introduced to the significance of the IMT System in improving the educational aspirations of disadvantaged adults and youths attending various technical, vocational and trade schools and Manpower Development Training (MDT) projects.

The State Directors suggested certain sites where it was thought that the IMT System should be started. The directors of local schools were contacted to inform them about the usefulness of the IMT System.

Several school directors expressed a desire to establish IMT Systems in their schools. However, in making final selection of the sites certain criteria were considered. These criteria include:

—Availability of staff to work in IMT System

—Availability of space, equipment, etc.

—Commitment by the director of school for cooperation in providing feedback and other data to TERC staff

—Commitment of funds for local support

—Severity of the disadvantaged population

After making a thorough appraisal of the requirements for establishing pilot demonstration sites, three Learning Resource Centers (LRC) were selected. These include:

—Atlanta Area Technical School
Atlanta, Georgia 30310

—Lewis M. Lively Area Vocational-Technical School
Tallahassee, Florida 32304

—J. F. Drake State Technical Trade School
Huntsville, Alabama 35811

Gadsden State Technical Trade School and Birmingham Metropolitan Area Skill Center had already been established and were operating programs using the IPI Language and Math components. The TERC staff was able to obtain feedback from the Birmingham and Gadsden experiences. The results from the Gadsden program have assisted staff in making improvements in the IMT System. These sites were selected for tryout of the new programs developed for the IMT System.

Utilization of Staff Training Materials

As the instructional materials were developed and modified, training was provided to LRC staff. Members of CCU and TAC served as advisors in the development and use of the staff training materials.

The staff to be trained includes the administrator of a training center (the individual who must be knowledgeable in all aspects of the program); all teachers in basic education, pre-vocational, and occupational areas; and the counseling staff. Right now, the pre-service training session lasts five days. Performance checks and testing during the training period insures a staff capable of establishing and operating the IMT System with a minimum of follow-up technical assistance. The System and the procedures that the staff must learn in order to set up and operate are quite complex. The chart on page 16 shows the principal components of the IMT System as it now exists.

Briefly, the major contents of staff training were:

1. Characteristics and advantages of an IMT System
2. Specifying the role of IMT personnel and the identification of tasks in a specific role or job
3. Learning how to select the specific tasks
4. Analyzing each selected task to determine instructional sequences, strategies and activities
5. Stating objectives in behavioral lessons
6. Establishing and operating an IMT System
7. Evaluating and selecting effective individualized instructional materials
8. Assisting trainee in his learning activities
9. Administering and interpreting TABE
10. Interviewing and diagnosing the trainee's difficulties
11. Prescribing trainee's study schedule
12. Information relative to managing the IMT System and assisting the trainee to attain his occupational goals
13. Other topics as deemed appropriate and requested by IMT staff and other persons involved in the IMT System.

Chapter III contains descriptions of the workshops and meetings held for LRC staff and members of CCU and TAC. The main topics discussed and special participants are presented in Appendices F, G, and H.

Although initial efforts have been restricted to manpower needs, the hope is that the concepts and principles generated here can be applied and adapted to any area of education or training in business and industry.

Design for an Individual Component of the IMT System:

Work Sampling Program

During this project period, efforts were made to design a framework for Work Sampling Programs in the IMT System. It was hoped that sufficient published materials, simulators and equipment, etc., would be available so that a Prescribing Catalog could be prepared. However, it was not accomplished fully because the high cost of these materials, simulators and equipment prevented tryout and validation.

The only program that the project staff was able to try out in this area was **Tool Technology.** This was considered one of the most successful approaches used in motivating and training the disadvantaged and handicapped.

The following concept paper on the Work Sampling Program in the IMT System was developed by the Project Director and provides a sound framework for the design of such programs. During Phase II of the project this program will be expanded to other areas.

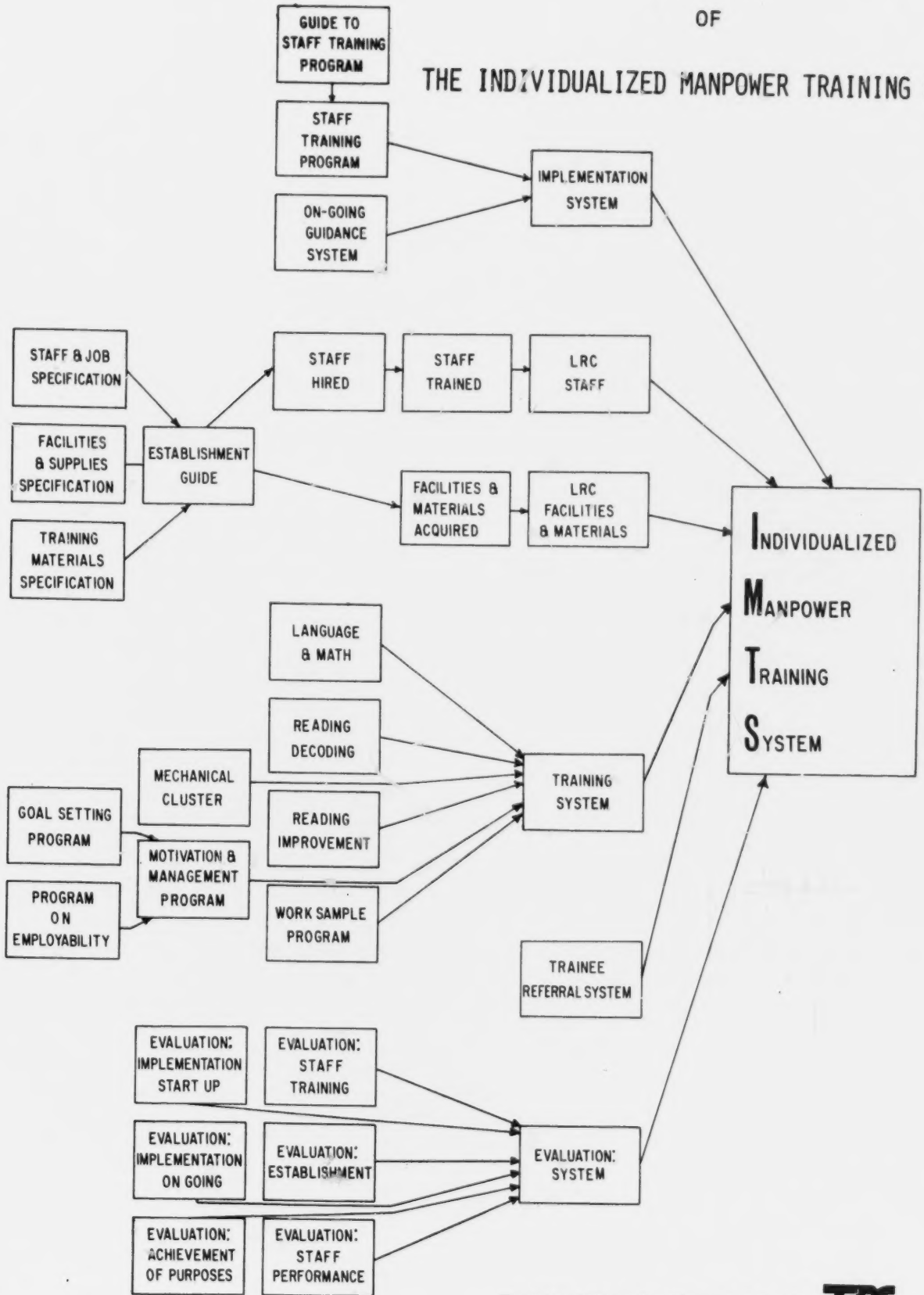
Introduction

Many groups have had considerable interest in the development of programmed instructional materials that would teach vocational knowledge and skills by using a multi-media approach (including simulators) that requires application of learning. In a two-year pilot demonstration project funded under Manpower Development Training Act (MDTA) from 1964 to 1967, the RRF developed several programmed instructional materials, one being a program on soldering, that demonstrated an efficient and effective method of learning. The pre- and posttest scores, as determined by the field test instructor, proved that trainees learned quicker, without any prior instruction from anyone, than they did from other methods. Both trainees and members of instructional staff became strong supporters of the programmed instructional materials which were developed during the two year period.

COMPONENTS

OF

THE INDIVIDUALIZED MANPOWER TRAINING SYSTEM



Technical Education Research Centers TERC

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These developed programs were provided to the Trade and Industrial Education Department, University of Alabama, for dissemination. Hundreds of copies were sold by the University of Alabama for the cost of printing and mailing. Many states in the U. S. and several other countries have also purchased copies of these materials from the University of Alabama.

Unfortunately, the utilization of these materials was not considered enough to justify refunding of the developmental efforts; therefore, a search of the market was begun for programmed materials which could be used in pre-vocational and/or vocational training programs. Many materials were reviewed with the following criteria in mind:

1. The materials must be self-pacing and self-instructional allowing trainee to progress at his own rate without depending on the instructor.
2. The instructional materials should be developed using the programming process relative to the developmental steps of tryout and revision until they prove to be effective self-instructional materials.
3. The programmed instructional materials should be developed in short precise units or modules with specific performance objectives.
4. The pre- and posttests (written or performance) for each unit should be available in order to prescribe the specific skills and knowledge required for entry into and/or for advancement in the occupational course or job.
5. The materials should be programmed so that the learner must apply skills and knowledge gained through simulated or real work activities.
6. The materials should be used as typical work samples for exploratory experiences that will help one to determine his career preference.
7. The content of the training materials should be appropriate for prerequisite, remedial, and/or related instruction for a particular task of an occupational cluster or a specific job. The content should include instructions in academic and manipulative skills and knowledge.
8. The materials should include staff instructions for diagnosing, prescribing, motivating, managing, and evaluating. They should also include the establishing procedures and criteria.
9. The materials should list validation data from field test of tryout populations.
10. The distribution list of users should be included in literature describing the materials.
11. The learning time and cost of materials and equipment should be as economical as possible (competitive with similar materials on the market).
12. The service from publisher, such as delivery of materials and staff training, should be prompt, adequate, and courteous.
13. The content of training material should be up-to-date and appropriate for employment needs.

After conducting a thorough search, it was found that no instructional materials were available which could meet these criteria. As a result, further search was begun for writers, designers, and publishers who would consider the criteria in developing future materials. It was the consensus of most of the publishers that the best way to improve our educational system was to develop new materials which will meet the criteria cited in this paper. The literature pertaining to individualized instructional materials also supports the need for developing such materials.

These efforts pointed out the need to expand the scope of the system and the staff training requirements. In 1971, a project was funded under MDTA to develop an individualized system to train staff. The primary objective of the project was to establish and operate an Individualized Manpower Training (IMT) System, concentrating on basic/remedial education for disadvantaged youths and adults. A secondary objective was to evaluate and select suitable instructional materials for the individualized training programs which are component parts of the IMT System.

Experiences during the past year have uncovered many problems, limitations, and instructional needs in implementing individualized systems for pre-occupational and occupational training programs. However,

the stated needs and the interest of potential users of programmed instructional materials and simulators are encouraging. In fact, the money and time given to this project indicate a tremendous desire to provide whatever is needed for disadvantaged learners so that they become employable.

Work Sample Approach

One of the most successful approaches used in motivating and training individuals, especially the disadvantaged and handicapped, is the one used in the **Tool Technology** Series. Even though the Series lacks specific objectives and exact procedures for application, it is one of the best examples of a work sample that can be utilized in the IMT System and meets most of the criteria listed in this paper. With several additions, such as pre- and posttests, validation data, and an estimated completion time, it would be an ideal prototype for an individualized system of instructions in all types of manpower training programs. A few work sample programs utilizing the **Tool Technology** Series include:

1. **Birmingham Skill Center** for
   a. Orientation-career guidance
   b. Pre-vocational as prerequisite
   c. Remedial and related training at the time needed in occupational training course
2. **Draper Correctional Center** for
   a. Core curriculum for cluster training requiring use of tools
   b. Academic training related to student's interest
3. **Lewis M. Lively Area Vocational-Technical School** for
   a. Training of mentally retarded
   b. Prerequisite and related instruction

Trainees have benefited from the **Tool Technology** Series; however, the benefits could be greatly increased by using it in the Work Sample Program of the IMT System.

The Work Sample Program

The Work Sample Program serves two main purposes in the IMT System. These purposes can be classified as the exploratory and preparatory experiences needed before a trainee can become employable in a particular occupation.

Exploratory Experiences. The reason for exploratory experiences is to provide the opportunities for career guidance that can assist a trainee in setting his occupational goal. By providing occupational information and an exposure to samples of skills and knowledge required in a job, a trainee is in a much better position to make a realistic occupational choice.

Work samples will be prescribed in the pre-occupational component of the IMT System that provides career guidance for a trainee who needs exploratory experiences. This can be determined if the trainee:

1. Does not know what his primary occupational interest and aptitudes are.
2. Has several interests and the ability to enter many occupations and is undecided as to which one to select.
3. Has doubts as to his ability and/or willingness to acquire the knowledge or skills required to succeed in a particular occupation.
4. Lacks the occupational information necessary to choose a career intelligently.

One of the occupational interest inventories and Nugent's motivational process, **Achieving Individualized Motivation Systems (AIMS)**, are two of the goal-setting programs which are used as a means of identifying which of the above situations apply.

Preparatory Experiences. There are several reasons a trainee may need preparatory experiences. These experiences may be the prerequisite, related, or remedial instruction needed for his own individual training plan. Some of the prerequisite and related skills and knowledge that are required for performance of a task can be provided in the training which is included in work samples. The specific academic and manipulative skills and knowledge provided will be identified and listed in a prescribing catalog.

By referring to this catalog a learning manager will be able to prescribe the most appropriate work sample experience that will provide the prerequisite instruction needed to enter or qualify for an occupational training course.

In addition, the catalog will provide a trainee with a list of related and/or remedial instruction needed to progress in his occupational course. Work samples will be prescribed in the pre-occupational component that provides prerequisite training related to specific occupations. Examples of related knowledge and skill areas that can be developed through the work sample system include reading comprehension, spelling, vocabulary, arithmetic, science, safety, and tools.

A trainee enrolled in an occupational course may receive work sample prescriptions for remedial and/or related instruction when his occupational instructor recognizes skill and knowledge deficiencies that can be corrected with work sample experiences. The occupational instructor and the trainee will make the determination as to whether a work sample prescription is an appropriate method of providing whatever remedial or related instruction is needed.

The scores obtained on **Tests of Adult Basic Education (TABE)** and a trainee's occupational goal will determine deficiencies in the related academic areas. These deficiencies, plus a performance check and/or the trainee's acknowledged need for prerequisite training in the manipulative skill areas, will guide the learning manager in prescribing appropriate work samples.

If a work sample program has an entry check, which could be called a diagnostic test and/or a performance checklist, it will be administered to a trainee in order to pinpoint the exact modules or units to prescribe. This procedure could apply for any trainee who needs exploratory experiences for career guidance as well as the prerequisite or remedial training to meet the eligibility requirements for the occupational course.

Naturally, the work sample prescriptions will be limited to whatever programmed instructional materials are available. As more appropriate materials are introduced on the market, they will be recommended to the sites implementing the IMT System.

Responsibilities of the Learning Manager and Occupational Instructor

The learning manager will be responsible for establishing, maintaining, and operating the work sample system so long as the programmed instructional materials, equipment, and supplies are located in the Learning Resource Center. If a specific work sample is utilized by only trainees in a specific occupational course, the occupational instructor could locate this program in his classroom connected to his laboratory area. In this case, the occupational instructor would be responsible for the work sample program.

Whether the occupational instructor or the learning manager is responsible for the work sample training, the tasks are the same in establishing and operating it.

An **establishing manual** will be provided which will specify: space arrangements; instructional equipment, materials and supplies; staff responsibilities; and an estimated budget. Procedures for operating the work sample system will be provided to staff in the form of a reference guide.

The **operating responsibilities** include:

1. Reviewing a trainee's file in order to determine individual needs.
2. Diagnosing specific exploratory or preparatory needs.
3. Administering entry check for specific work sample programs.
4. Prescribing appropriate work sample experiences. Work samples will be related to occupational goal if one has been set. If no goal has been set, work samples can guide one in selecting a goal by providing "hands on" experience in different occupational areas.
5. Instructing each trainee on the proper use of the work sample program and equipment.
6. Developing a realistic work and study schedule based on baseline data showing daily progress of trainee. There will be a gradual increase in the amount of work to be accomplished each period when he is assigned to work samples. Contingency contracts may be used.

7. Assisting trainee when required.
8. Assessing daily progress made by:
   a. Recording number of modules or units completed
   b. Administering and scoring posttest
   c. Observing and checking performance according to established criteria
   d. Recording amount of time required to successfully complete each instructional module or unit.
9. Recommending alternate work sample programs when the overall evaluation does not indicate that the trainee is learning effectively or when he decides that he is not interested in pursuing the occupational goal for a particular work sample.
10. Referring trainees into occupational training as soon as trainee decides what his goal is or when he has completed the eligibility requirements.
11. Sending trainee back to his occupational training class as soon as he has successfully completed any remedial requirements that prevent progress toward his occupational goal.

Summary

In summary, the work sample system can be utilized by trainees who are enrolled in either the pre-occupational or occupational training components of the IMT System. Work sample experiences can be exploratory for the trainee who needs career guidance and it can also be preparatory for the one who needs prerequisite, remedial, and/or related training.

Pretest scores (written or performance) and the trainee's stated interest determine which, or whether, work sample programs will be prescribed. Posttest scores and the trainee's desires guide any future action that the staff must take in precribing alternate programs or in modifying his individual training plan.

The immediate need is a successful demonstration of work sample materials in an individualized instructional system utilizing staff trained in the proper use of the materials. The work sample component of the IMT System is being developed and staff members are being trained in order that programmed instructional materials and simulators can have an adequate proving ground for others to understand and evaluate their effectiveness. The ultimate result of this project is expected to be:

1. More and better trained staffs qualified to establish and operate individualized systems of work sampling instruction.
2. More instructional staff who firmly believe in programmed instructional materials and simulators.
3. A greater market for work sampling instructional material and simulators that meet the stated criteria.
4. More writers, designers, and publishers willing to produce adequate instructional materials for an individualized system of work sampling.
5. Since the demand will be greater, a reduction in cost of producing work sampling materials and simulators.

Assessment of the Project

As indicated previously SACS was given a subcontract for the total assessment of the Project. The Research and Assessment Coordinator of SACS has visited certain IMT sites and also attended staff training sessions and workshops. Other evaluation team members visited the demonstration sites and the TERC office. The assessment report had been sent separately by SACS to the U. S. Department of Labor.

The TERC staff also made some assessment of the effectiveness of training provided to IMT staff in terms of the technical assistance needed. This information is provided in Chapter IV of this document.

CHAPTER III

UTILIZATION OF PRODUCTS AND TRAINING ACTIVITIES

This chapter contains detailed descriptions of all staff training materials produced during Phase I of the project. The written "Guides" have been submitted to the Department of Labor; the tape-slide modules will be used during Phase II of this project and are available at the TERC offices in Montgomery, Alabama. This chapter also includes training activities carried out by project staff. The various workshops, meetings, and conventions attended by the project staff are discussed briefly.

The products prepared during Phase I are as follows:

Guide to Establishing the Individualized Manpower Training System

This guide contains basic guidelines and specifications for planning and organizing an IMT Learning Resource Center. It presents specific procedures for budgeting, staffing and establishing a Learning Resource Center and is intended for independent use by interested or committed agencies after an initial orientation by TERC staff or other experienced personnel.

The Management Plan included in the Guide defines, in sequence, all tasks to be performed during the Establishment phase and specifies necessary preconditions (givens) and criteria for each task. A hiring schedule, job description, and a work plan for each LRC staff member are provided. Feedback information to assist the administrative staff in monitoring progress is provided by means of brief reports which specify the time spent on each task. Questionnaires on staff background and student population profiles provide data useful in evaluating training effectiveness.

Floor plans, physical environment and furnishings, are discussed in detail. Several proposed floor plans are included and characteristics of an effective learning environment explained.

Instructional materials are, of course, the heart of the System. The Establishing Guide defines the characteristics of selection, validation and adoption of new materials to improve the effectiveness and range of the program.

The ordering of initial instructional materials has been simplified considerably. The Bibliography contains all materials used in the components of the IMT System, as well as staff training materials. With this, the IMT staff can inventory materials which may already be on hand, determine the number of each required, and, using the formula provided, calculate the cost and write the order.

Audiovisual programs which are considered major expenditures are evaluated to indicate the advantages and disadvantages. This section also includes instructions for setting up the Instructional Materials Library.

An estimated budget for an LRC serving 30 trainees, two hours daily or 120 students a day, has been included as a sample. Each piece of equipment is described in detail and a current price indicated. This budget allows the institution to inventory present equipment and devise alternatives to buying (such as fabricating furniture in vocational training shops). (146 pages)

Guide to Operating the Individualized Manpower Training System

This is the basic text and reference for the LRC staff. It outlines each phase of the trainee's progress and defines the duties and activities of the LRC staff at each step.

Staff training modules in a self-paced tape-slide format are used to teach each phase of the System; in every case the Operating Guide is the basic reference and contains all the essential information in an easy-to-understand schematic format. These simple decision-making tools, called algorithms, have been used throughout the IMT staff training materials to clarify procedures and encourage consistent application of rules and criteria.

The initial section of the Guide deals with the Introductory Program. It contains sample schedules for efficient processing of large or small groups of trainees; instructions on administering the TABE Locator Test and completing the Personal Data Form; a guideline for conducting the Exploratory Interview and referring the trainee to other IMT programs. Ample space is provided for the LRC staff members to add notes on observations during staff training or during actual operation of the System.

In Section B, the LRC staff learns to introduce the trainee to diagnostic testing, administer and score the TABE. The decision to continue in the IMT System is made after TABE scores have been compared with the trainee's occupational goals. A Modular Analysis of Learning Difficulties or MALD is used to analyze the TABE scores and determine if the student requires additional language or math skills to achieve his occupational goals.

Section D describes the technique for arriving at an individualized study schedule using the MALD and the Prescribing Catalog.

Section E contains the Guide to Learning Management, which prepares the learning manager to orient the trainee and monitor and direct his progress. Common student problems are discussed and possible solutions are presented.

Section F contains unit and posttest procedures.

A complete set of forms used in the IMT System is included with the Operating Guide. (75 pages)

Operating the Employability Program:
A Programmed Lesson

The Employability Behaviors Program is designed to detect behavior patterns which cause otherwise qualified individuals to lose their jobs. It provides the trainee with a clear indication of his own work habits and a means to remedy them by providing:

(a) specific opportunities to exhibit desirable behaviors; and
(b) differential consequences for desirable behaviors using behavioral techniques of self-management.
The heart of the program is the Employability Progress Plotter with which the trainee rates himself daily in the areas of:

1. Punctuality
2. Conformity to work rules
3. Job achievement
4. Care of employer's property and resources

The lesson contains a draft slide-tape module, **Student Introduction,** which will teach the purpose and mechanics of the Employability Plotter and will also be used as an introduction to the staff training. The remainder of the lesson is designed to be a practical course in Behavior Modification techniques which may be used by the LRC staff to foster good work habits in the trainees. The lesson is programmed and requires frequent written responses.

"Using the Employability Plotter in the Learning Center" teaches the IMT staff to evaluate the merits of hypothetical actions by students and staff in order to define the best use of the program.

"Suggestions on Helping Students" helps staff to discriminate between responses which indicate basic employability problems and "merely clerical" mistakes. Solutions to common problems are discussed.

Since motivational problems are common with disadvantaged trainees, considerable attention is given to providing motivation through the use of "contingency contracting" techniques. Basic principles of motivation are discussed and illustrated with numerous examples and case studies. (30 pages)

Guide to Operating Complementary Skills Program

Unlike the "Employability Behaviors," the Complementary Skills affect job retention only indirectly. They are skills which are required to live responsibly in a modern society — money management, credit

buying, diet and health, comparison shopping, job finding, etc. The Guide provides staff training in establishing and operating an individualized program which allows the trainee to choose the skills he wishes to acquire. He makes his selection from a Complementary Skills Catalog which lists topics and performance objectives. The learning manager then provides the trainee with a programmed module matched to his reading level. The learning manager will assist the student with difficulties but there are no post-tests with Complementary Skills materials.

New commercial materials which meet the requirements of the program may be added as they become available. (42 pages with Sample Forms)

Guide to Establishing and Operating the Mechanical Cluster Program in the IMT System

The Mechanical Cluster Curriculum was developed as a prototype program to demonstrate the feasibility of individualizing instruction for tasks common to a cluster of related occupations. As a prototype, it is not intended to be implemented as written, but to illustrate the techniques and principles involved in developing an individualized cluster curriculum.

The **Guide**, then, not only contains the structure of a curriculum to teach tasks common to the repair of all types of internal combustion engines, but also contains detailed discussions on the reasons underlying each decision made during the developmental process.

The "Establishing" Section includes: Justification; Staffing and Instructor Training; Staff Responsibilities; and information on obtaining and preparing necessary training materials. Sample floor plans, tool and equipment lists, and descriptions of training aids are included.

The "Operating" Section describes the technique used to determine which tasks the trainee is already competent to perform and the manner of prescribing the materials and equipment required to learn new tasks. The "Prescription" form presents the trainee with a clear program for learning each new task by specifying the written or audiovisual materials, required tools, and objectives. In the "Management" phase, the Guide points out areas which should receive attention in providing a smooth-running program, but detailed procedures for tool management, record keeping, etc., are not specified.

Evaluation of task performance must be thorough and continuous. This can be accomplished by use of a "Task Performance Check Sheet" which allows the learning manager to check both performance criteria for particular tasks and basic work habits such as cleanliness and efficiency. Motivational techniques which are peculiar to the Mechanical Cluster Program are discussed in detail.

The "Back-up Materials" include concept papers, presentations, and work summaries which will provide useful insights into the process of developing a cluster curriculum. (118 pages)

Guide To Operating The Sample Individualized Reading Program

This Guide provides a prototype for adapting available adult reading programs to the IMT System. EDL's Learning-100 Program was chosen as the model for this Operating Guide. Staff training follows a demonstration of EDL Learning-100 Program and equipment which is conducted by an EDL representative.

The Guide includes step-by-step descriptions of the procedures used to diagnose, prescribe, and manage. When a trainee enters the LRC the learning manager should be able to use the Guide to:

1. Determine the trainee's reading level and placement in L-100.
2. Determine specific decoding problems of the trainee.
3. Write a prescription containing the exact L-100 lessons which the trainee will need.
4. Manage and evaluate the trainee's progress.

A staff training program and workbook have been developed to accompany the Guide. This section of the program is designed to instruct IMT staff members to implement the Sample Reading Program. The workbook contains case studies to familiarize the staff with procedures.

The Guide also contains all forms necessary to operate the reading program. (47 pages)

An Introduction to the Individualized Manpower Training Program

This slide/tape orientation is designed as a brief overview of the IMT System. It outlines the basic concepts underlying the System and discusses each step in the trainee's progress through the total IMT program. At the completion of this introduction, the viewer should know the five phases of the IMT System, the major forms and techniques used in each phase, and the other programs within the System. This Introduction may be used to familiarize administrators, educators, or other visitors to the LRC Center, but the primary design population was the prospective IMT staff member.

After viewing the Introduction, IMT staff members begin more detailed **programmed** staff training using tape/slide modules which require them to test their knowledge regularly by making written responses.

The Programmed Instructional Process and Products

Since programmed instruction is the backbone of the IMT System, it is essential that the prospective LRC staff member be familiar with fundamentals of developing programmed materials so that he may capably evaluate learning materials. After completion of this programmed tape/slide module, the staff member will be able to:

— list, in the correct sequence, the phases of the developmental process for instructional programs
— list five major characteristics of good programmed instruction
— define two common programmed instruction formats and terminology
— identify examples of two common formats for programmed instruction
— explain how programmed instruction is used within the IMT System to solve specific educational problems.

The student completing this module learns about programmed instruction **using** a programmed format. Maximum use of this common experience with programmed instruction is made by frequently pointing out the aspects of the module which match the description. The students make frequent written responses in a Workbook and check their answers with an answer frame on the screen before progressing to the next increment.

A module posttest is provided to test the effectiveness of the presentation; this posttest may also be used as a pretest to allow students able to pass it to proceed with other learning modules.

An Introduction to the Phases and Materials

This programmed tape/slide module presents a detailed discussion of the phases of the IMT System and the forms and other materials used in each phase. It is used during staff training to assure early mastery of the concepts presented in "An Introduction to the IMT System." After completing this programmed lesson, the student will be able to:

— describe in order the phases in operating the IMT System
— describe the major diagnostic test used (the TABE), its subtests and the skill areas covered
— describe and match the major manuals and forms used in the operation of the IMT System with the phase in which each item is used.

The LRC staff member is required to make frequent written responses during the presentation and receives immediate feedback/reinforcement from the screen. The Workbook contains a total of twelve exercises. Progress Checks, with answers, are spaced throughout the program and all appropriate forms are reproduced so that the student may refer to them at any time. There is opportunity for knowledgeable students to skip this learning module by passing the pretest. For those who need or elect to take the module, the posttest gives a final appraisal of how effectively they have learned. If the posttest indicates a learning weakness in a particular area, the student is directed to the appropriate module frames for review.

The Case Study

The Case Study includes tape/slide modules designed to give IMT staff simulated experience in completing the forms and performing the duties they will be expected to perform during the Operating phase. The content follows the five phases of the IMT System and builds on the concepts developed in the Introduction and Phases and Materials modules. Throughout the Case Study the staff members are encouraged to use the Operating Guide as a basic reference.

A Case Study: Interviewing

The first module of the Case Study Program introduces the simulation technique and reviews the major phases of the IMT System. The Interview portion teaches the prospective learning manager or aide to greet, orient, and elicit personal data from entering trainees. The emphasis is on establishing rapport with the trainee and assuring that his initial experience with the IMT is pleasant and productive. Portions of interview dialogue are used as example of proper technique and appropriate forms are provided in a separate Workbook.

Proper scheduling of the trainee's activities during the interview phase is most important to his successful orientation and to the efficiency of the IMT System. This apsect is covered in detail and several alternative schedules are discussed. All Case Study modules emphasize the use of the Operating Guide as an aid in defining procedures and resolving problems. Algorithms are used throughout the Guide to simplify the presentation of procedural decisions.

A Case Study: Diagnosing

The second module of the Case Study is a programmed simulated exercise which teaches the learning manager to:

— introduce the trainee to diagnostic testing
— administer the TABE Locator Test and the appropriate level TABE
— score the TABE
— complete the Grade Placement form
— complete the Modular Analysis of Learning Difficulties (MALD) form.

The module is branched so that a separate module entitled "Testing" is prescribed to those who have had no recent experience in administering the TABE. All prospective staff members complete exercises in scoring the TABE and completing the Grade Placement and MALD forms. There are frequent pauses in the tape/slide presentation during which the student is required to complete an item in the Workbook. The student works at his own pace and, when ready, restarts the machine, checks and corrects his response.

A Case Study: Testing

The Testing module includes a sample dialogue between a learning manager and a trainee about to begin the diagnostic testing phase. It emphasizes that the purpose of the test is to **identify** those areas in which the trainee needs additional training. There are no "failures" associated with this test.

Step-by-step instructions on administering the tests include preliminary remarks, the self-scored practice exercises, the Locator Test, and determining what TABE level to administer. Staff trainees are referred to appropriate sections of the printed instructions for administering the TABE and then see and hear a trained learning manager administering the test to a group of trainees. The TABE materials are explained and identified and important instructions emphasized.

A Case Study: Prescribing

In the Prescribing module the staff member uses the Grade Placement and MALD forms completed earlier to determine the priority of training and uses the Prescribing Catalog to complete the trainee's Study Schedule.

The use of the MALD is explained in detail and techniques for completing additional portions of the MALD and the Study Schedule are demonstrated. The staff trainee is required to complete "Ed Smith's" Study Schedule at his own pace and then to check his work against the slide provided. This exercise was developed to introduce the staff trainee to all procedures necessary to use the Prescribing Catalog successfully.

At the end of the Prescribing exercise the trainee's goals and occupational objectives are reviewed in light of his learning strengths and weaknesses as revealed by the TABE. The learning manager is taught to provide the trainee with specific instructions on the next step in his training and to update his file folder.

A Case Study: Managing and Evaluating

Managing and Evaluating are covered in a single module which points out that management and evaluation are functions which are continuous throughout all phases of the IMT program. In this module, the staff member learns to:

— orient the trainee to the IMT study process
— provide learning materials
— monitor trainee's study activities and progress.

The staff member learns specific criteria for presenting the orientation, completes a Materials Assignment form and learns its use, learns how to prescribe alternate instructional modules and administer module posttests.

The module emphasizes the importance of knowing how to detect when a trainee is experiencing difficulty with a learning module and refers the staff member to the Operating Guide which contains a detailed discussion of this technique and solutions to many common problems.

Trainee Orientation

The Trainee Orientation is a tape/slide module which answers the prospective trainee's questions about the purpose of the IMT System, his role in the Learning Resource Center, and the fundamental differences between an individualized program and the traditional classroom learning experience. This module has been prepared as an aid to the learning manager in giving the trainee an introduction to the Learning Resource Center and to programmed instruction using audiovisual techniques.

The format of the module uses a maximum of colorful cartoon figures, while the narrative focuses on the trainee — his motivation, his anxieties, his questions — and points out the advantages of individualized training over other learning methods.

An Introduction to the Employability Program

This module (to be made into a tape/slide presentation) introduces trainees to a program that allows them to identify those work habits and attitudes which cause people to lose jobs. It teaches them to monitor their own behavior and to identify and correct undesirable habits or attitudes. The four most common reasons for losing a job are:

1. Absences and lateness.
2. Failure to take proper care of the employer's property and resources.
3. Failure to meet the employer's job achievement requirements.
4. Failure to conform to work rules.

The Employability Progress Plotter is used by the trainee to determine if his work habits would be acceptable to an employer. The Plotter asks specific questions about the day's activities and the trainee scores himself in the areas of Timekeeping, Property and Resources, and Job Achievement. The trainee is taught, by the use of examples, the mechanics of the Plotter and the methods by which the learning manager will review his Plotter and counsel him on possible improvements.

This module is also intended for use as an introduction to staff training in operating the Employability Behaviors Program.

Staff Training Meetings and Workshops

IMT System Staff Training Sessions

There were five workshops held at pilot demonstration sites. The first was a two-day workshop held at Lively in which 108 persons participated. The focus of this workshop was an overview of the IMT System. A five-day operating workshop was also held at Lively in which 25 persons participated. The third was a three-day workshop which served as an introduction to 50 of the Atlanta IMT staff and other key staff, such as counselors and department heads for the occupational training courses. The last day was

spent in planning. The fourth workshop was held at Drake Technical Trade School in Huntsville, Alabama, with approximately 35 participants on the first day and 17 participants for the last five days. The fifth workshop on operating the IMT System was held at Atlanta Technical School for IMT staff and specially invited guests who served on the TAC and CCU. A total of 48 people attended during the workshop. The total number of people attending all five workshops is 248.

The data in Appendix F indicate the main topics discussed in the workshops. It also shows special contributors and consultants who provided staff training.

CCU Training Sessions

The first two one-day meetings for members of CCU were held in Atlanta, the third was a three-day workshop held at Lively and the fourth two-day workshop was in Atlanta. The number of participants in these workshops were 21, 14, 22, and 24 respectively. The topics discussed and the special participants in these meetings and workshops are mentioned in Appendix G.

TAC Training Sessions

There were three one-day and another one-night meetings for members of TAC. All four were held in Atlanta. The number of participants in the first, second, third, and fourth meetings were 25, 19, 21, and 20 respectively. Appendix H shows the topics discussed in the meetings of TAC and the special contributors, guests, and consultants participating.

The numbers participating in the CCU and TAC meeting were 81 and 65 respectively for a total of 146. During the first phase, 394 professional personnel received training on the IMT System at 12 formal meetings and workshops.

In addition to participating in the formal meetings and workshops, TERC staff held several informal conferences, sessions, and visits with the persons involved in this project.

After each workshop and meeting, the participating members were asked to provide feedback to the Project Director for improvement and refinement of instructional materials. The Research and Assessment Coordinator also made some appraisal of these meetings and workshops. TERC staff made necessary improvements in the development of materials as suggested by the participating members in the workshops.

Other Project Staff Activities

TERC staff participated in and attended additional workshops held in various parts of the United States to share information with other professional persons engaged in educational research and related activities. TERC staff were involved in the following review and training activities:

1. Presentation on Project plans to TERC staff, Cambridge, Massachusetts, by Donna M. Seay and Jerry Patterson, January 28, 1971.
2. Presentation on Project plans to State staff, Georgia Vocational Rehabilitation Services, by Donna M. Seay, February 1, 1971.
3. Presentation on Project plans to Florida State staff, by Donna M. Seay, February 5, 1971.
4. Presentation on Project plans to State staff Tennessee Vocational Education and Vocational Rehabilitation Divisions, by Donna M. Seay, February 17, 1971.
5. Project Planning and Development Meeting, Pensacola, Florida, Jerry Patterson, March 12, 1971.
6. Presentation on Project plans to the Vocational Education staff, University of Alabama, Tuscaloosa, Alabama, by Donna M. Seay, March 14, 1971.
7. Advised Appalachian Adult Education Demonstration Center staff on proposal for Basic Education Institute for Morehead University. Meeting at Lexington, Kentucky, by Donna M. Seay, May 6, 1971.
8. Presentation on IMT Project Lattice, Alabama Aviation Institute, Ozark, Alabama, by J. F. Ingram, May 6, 1971.

9. Paper on Utilization of Individualized Instruction for Vocational Education presented at Feasibility Study Conference, N. W. Regional LAB, Portland, Oregon, by Donna M. Seay and J. F. Ingram, May 11, 1971.

10. Presentation on Teacher Education for Individualized Adult Basic Education Programs to the Adult Basic Education Conference 100, Chicago, Illinois, by Donna M. Seay, May 14, 1971.

11. Presentation of Project plans to representatives of Federal agencies and professional organizations, Washington, D. C., by Donna M. Seay and Jerry Patterson, May 20-21, 1971.

12. Planning for development of ABE Institute, Morehead University, Morehead, Kentucky, by Donna M. Seay, June 10, 1971.

13. Conference on Cluster Curriculum for Bio-Medical Technicians, Atlanta, Georgia, J. F. Ingram, July 6-9, 1971.

14. Workshop at Morehead State University, Lexington, Kentucky, Jerry Patterson, July 18-21, 1971.

15. Presentation on Individualized Instruction and Simulated Training of 100 Basic Education teachers at Morehead Institute, by Donna M. Seay and Jerry Patterson, July, 1971.

16. Presentation on IMT System to Alabama Vocational Association Workshop, Birmingham, Alabama, by Donna M. Seay and J. F. Ingram, August, 1971.

17. Presentation on IMT System to the Manpower Administration, Washington, D. C., by Donna M. Seay and Jerry Patterson, September, 1971.

18. Demonstration of IMT staff training materials to Manpower Administration, Washington, D. C., by Donna M. Seay, March, April, and September, 1971.

19. Behavior Modification Workshop, Columbus, Ohio, Jerry Patterson, October 17-20, 1971.

20. Presentation on Project Goals to members of Southern Vocational Research Committee, Orlando, Florida, by Donna M. Seay, October 20, 1971.

21. Project Planning Meeting, Washington, D. C., Jerry Patterson, November 16-19, 1971.

22. Presentation on IMT System to Clanton School officials, Clanton, Alabama, by J. F. Ingram, November 18 1971.

23. Presentation on IMT Concepts to National Manpower Advisory Committee's Subcommittee on Training, Washington, D.C., by Donna M. Seay, November 19, 1971.

24. Presentation on IMT System to California Youth Authority staff, San Francisco, California, by Donna M. Seay, December 9, 1971.

25. Presentation on specifications for instructional materials used in the IMT System to MIND staff, New York City, New York, by Donna M. Seay, January 3, 1972.

26. Presentation on IMT System Phases and Materials to Policy and Planning Committee of American Vocational Association, St. Louis, Missouri, March 2-3, 1972.

27. Presentation on requirements for establishing IMT System to California Youth Authority staff, Preston School of Industry, Ione, California, by Donna M. Seay and Ivan Horabin, March 4, 1972.

28. Presentation on IMT System to National Society of Programmed Instruction, New Orleans, Louisiana, by Donna M. Seay, Dr. J. William Ullery and Ivan Horabin, March 17-18, 1972.

29. Presentation on requirements for IMT System to Miami Skill Center staff, Miami, Florida, by Donna M. Seay, April 10, 1972.

30. Presentation on requirements for IMT System to Indian River Community College staff, Fort Pierce, Florida, by Donna M. Seay, April 11, 1972.

31. Presentation, "New Horizons in Teacher Education" (Individualized Staff Training) to Adult Basic Education Conference 100, New York City, New York, by Donna M. Seay, May 5, 1972.

In addition TERC project staff observed other related education projects and received certain staff training:

1. TAT Project, Oak Ridge, Tennessee, (Manpower Project for Disadvantaged), Donna M. Seay, February 15, 1971.
2. Nashville State Technical School, (Individualized CMI), Donna M. Seay, February 17, 1971.
3. Beggs Center, Pensacola, Florida, (Behavior Modification), Donna M. Seay, Jerry Patterson, J. F. Ingram, and Doug Banks, March 12, 1971.
4. Vocational Rehabilitation Center, Tampa, Florida, (Behavior Modification), Donna M. Seay, March 23, 1971.
5. Learning Center, North Carolina State University, Raleigh, North Carolina, (Individualized Instruction), Donna M. Seay and Jerry Patterson, March 29, 1971.
6. Rochester Manpower Program, Rochester, New York, (Manpower Experimental and Demonstration Programs for the Disadvantaged, funded by the Department of Labor), Donna M. Seay and Jerry Patterson, March 30, 1971.
7. Research for Better Schools Inc., Philadelphia, Pennsylvania, (IPI for Adults), Donna M. Seay, April 3, 1971.
8. Mathetics Workshop by Dr. Thomas Gilbert, Proxis, New York City, Donna M. Seay, May, 1971.
9. Behavior Modification Workshop, Columbus, Ohio (staff working with handicapped and disadvantaged) Donna M. Seay, Jerry Patterson, and Doug Banks, October 17, 1971.
10. AIMS Training by Dr. James Nugent, (Goal Setting Program), TERC Offices, Montgomery, Alabama, Donna M. Seay, J. F. Ingram, Doug Banks, Jerry Patterson, Bob Eller, and Mickey Kibble, October, 1971.

CHAPTER IV

AN ANALYSIS OF THE IMT SYSTEM STAFF TRAINING NEEDS

One of the objectives of this project was to train a sufficient number of qualified personnel to establish and operate the IMT System for disadvantaged and handicapped youths and adults. In order to accomplish this objective the IMT System staff working at Learning Resource Centers were provided training in the use of instructional materials for individualized instruction. The purpose of this chapter is to give an analysis of the technical assistance and other materials needed by IMT staff.

The material in this chapter is based on data collected by Dr. D. R. Bajaj. His report describes the technical assistance needed by IMT site staff in order to run the LRC effectively. Included also are basic needs of the facilities.

Introduction

Staff training and development is essential to the efficient operation of the IMT System. Such training is needed to continuously and systematically develop the knowledge, skill and attitudes which enhance the effectiveness of the staff.

It has been recognized that a good staff doing a better than satisfactory job has to be based on what might be called a "manpower tripod" — a three-legged structure that will collapse, if any of the legs is weak, badly designed, or missing. The three legs are (1) selection, (2) training, and (3) motivation. Each is needed; each must be strong and firmly based. A man well selected but poorly trained won't be able to do a good job. A man who is a poor hiring risk will probably not respond well to training, and the man who is poorly motivated will not perform at capacity even if he has been carefully selected and well trained.

Characteristics of a Comprehensive Staff Training Program

A staff training program should be dynamic and directed toward improving the ongoing program. It should be based on individual problems and the identification of individual needs and should allow for individual differences in abilities and experience. It should encourage a two-way flow of ideas and activity between trainer and trainees (staff) and provide an ideal situation in which to discuss new ideas that would enhance the effectiveness of the personnel. Briefly, the dimensions of a comprehensive and adequate training program should include some of the following characteristics or criteria:

Official — Supported by written administrative policy and procedure

Purposeful — Directed towards definite objectives and subject to systematic evaluation

Cooperative — Planned cooperatively by the staff and the trainer

Need Oriented — Based on individual needs with allowance for individual differences in abilities and interests

Dynamic — Directed toward improvement of the ongoing programs

Flexible — Capable of being adjusted by the varied experiences of personnel, methods and procedures, and changing emphasis on program content

Continuous — Available throughout the program

Developmental — Directed toward answering the maturing needs of the individual

Well Organized — Planned so as to achieve continuity and integration with the experience of the learner

Scientific — Directed toward stimulating intellectual curiosity among personnel and based upon scientific information

These ten characteristics or criteria were considered in planning for the staff training program.

The Nature of the Problem

The staff of the Technical Education Research Center (TERC) in Montgomery, Alabama is engaged in developing staff training materials for personnel operating the IMT System in five pilot-demonstration sites in the Southeast.

Individualized instructional materials are used at the five pilot-demonstration sites, called Learning Resource Centers or LRC's, to provide individualized instruction in basic math and language skills to disadvantaged and/or handicapped persons. Since the establishment of these LRC sites and the preliminary staff training conducted by TERC staff, several new programs have been developed to complement and complete the language and math curriculum.

Job descriptions for each LRC staff member were developed in early 1972 to fill a need recognized by both TERC and LRC staffs. The job descriptions which resulted included the best features of task distributions which had evolved in the five pilot-demonstration sites during the first few months of operation.

The "Training Needs Questionnaire" was designed to evaluate the individual's preparedness to function in the position defined by the composite job description. It was recognized that certain in-service training would be required to function under the new job descriptions, and one purpose of the analysis was to determine what training was required for whom.

It is necessary then to determine the amount and type of additional training which is required to implement the new programs and to assess the effectiveness of the initial training after several months of operation.

Purpose of the Study

The purpose of this study is to determine the training needs of LRC staff. Training analysis will insure timely development of a sound training plan to enable LRC staff to perform assigned tasks competently. To indicate more clearly the purpose of the study, the following specific objectives were formulated:

Major objectives

To determine the training needs of LRC staff.

To establish priorities for training programs as expressed by individual LRC staff members.

To get feedback from LRC staff about their perception of the job.

Minor objectives

To get information from each LRC site on specific requirements for materials or equipment.

To identify specific problems confronted by LRC staff in implementing IMT programs.

Procedure

There are several possible ways of determining needs of LRC staff: interviewing people with whom the staff work, formation of staff assessment committees, evaluation by an outside investigator, etc. In this study, a personal interview technique was used to minimize the negative effects which an "evaluation" might have on the LRC staff and to encourage free and open discussion of training problems and limitations.

The areas of principal interest were:

1. Identifying training needs through
   a. Analysis of job description
   b. Analysis of program emphasis
2. Identifying the individual workers in need of training through self-surveys of needs and interests
3. Determining priority in training needs

Instrumentation

Separate job descriptions (Appendix D) were designed for each LRC staff position. These positions are:

1. Learning manager
2. Assistant learning manager/learning aide
3. Counselor

Presentation and Analysis of Data

The findings of this study are reported in a composite analysis of the training needs of all five sites. Data for individual sites are in tabular form in Appendix I.

TERC staff had provided training in establishing and operating the language and math components at the various sites or at workshops attended by site staff. Training for new IMT components developed subsequently had not been accomplished at the time and, therefore, are not included in this analysis.

The data are based on assigned value points for levels of staff training needs. All items including those receiving zero value points are shown in Table 2. Items receiving zero value points are eliminated from the individual data in Appendix I in order to save time and space.

It should be noted that a higher value point score by an item indicates a proportionate or greater need for training in that particular area. Likewise, a lower score indicates less need for training in that area.

Composite Analysis of Training Needs
for
Five LRC Sites

This section covers the total training needs of all five LRC sites: Lively Area Vocational-Technical School, Atlanta Area Technical School, J. F. Drake State Technical Trade School, Gadsden State Technical Trade School, and the Birmingham Skill Center.

The data in Table 1 indicate the total number of participants in this study.*

TABLE 1

LRC — Affiliated Staff Respondents by Title

Title	Number Affiliated	Number Responded	Per Cent Of Response
Learning Manager	6	6	100
Assistant Learning Manager/ Learning Aide	5	5	100
Counselor	1	1	100

* Note.—The respondents at the Birmingham Skill Center were the supervisor of Instruction, who performs the duties of head learning manager, and one learning manager. Even though both answered the questionnaire, the learning manager was not interviewed in person. Neither expressed any training needs and the Supervisor indicated that they were competent in all areas of individualized instruction. However, it should be noted that they have not implemented the Employability Behaviors or the Complementary Skills Programs.

The Director of the Center expressed a desire to be involved in Phase II activities of the IMT programs. He was particularly interested in technical assistance from TERC in certain occupational programs which can be provided to trainees on an individual basis.

TABLE 2

Training Needs of Learning Managers
N=6

Activity	Value Points
A. Management of LRC	
1. Specifying the job description of LRC personnel	5
2. Selection of location, preparation of floor plans etc. of LRC	1
3. Selection of new facilities for LRC	0
4. Selection and appraisal of staff	2
5. Conduct administrative tasks such as correspondence and planning of schedule of events	0
6. Supervision of LRC staff	0
7. Supervise maintenance of LRC equipment, materials, etc.	1
8. Making inventory of LRC materials, equipment, etc.	0
9. Prepare purchase orders for supplies, instructional materials, etc.	0
10. Request and schedule technical assistance	2
11. Working with other agencies — governmental and industrial	1
B. The IMT System	
12. Assess and determine suitability of instructional materials of IMT	3
13. Understanding, improving, and adding of new materials	4
14. Read related materials on IMT	1
15. Inform and instruct school staff on IMT services, operations, etc.	0
C. Trainee in the LRC	
16. Prepare schedule of study time for trainee	2
17. Orient trainee to study process	0
18. Make learning assignments for trainee	0
19. Prepare trainee for study	0
20. Supervise learning activity	0
21. Review completed assignment of trainee	0
22. Evaluate test results	0
23. Assist trainee in the improvement of employability behaviors	8
24. Assist trainees in the development of contingency contracts	8
25. Maintain study schedule	0
26. Maintain discipline and order in LRC	0
27. Collection and tabulation of data on trainee	0
28. Selection of trainee and making referral	1
29. Evaluation of learning experiences	0

The data in TABLE 2 reveal that out of 29 questionnaire items indicating specific activities, the learning managers expressed their need for training in 13 activities. Activities indicated by items 23 and 24 scored the highest value points. Activites indicated by items 1 and 13 ranked second and third respectively. The remaining items in which the training needs were expressed scored between 1 and 3 value points. Sixteen of the activity items scored 0 value points.

Additional Training Needs

The learning managers expressed the need for additional technical assistance in the following areas:

1. Reading Program
2. Use of videotape
3. Understanding of Motivation (AIMS) Program
4. Precision in diagnosing and prescribing
5. Use of reading equipment
6. Counseling with trainees

Establishment of Priorities

The reader may recall that each respondent was asked to establish his training needs priorities from first to fourth. The first, second, third and fourth priorities were given 4, 3, 2 and 1 value points respectively. On the basis of this scale the following priorities were established by the learning managers:

Priority	Items	Value Points
1	Reading Program	18
2	Specifying the job description of LRC personnel	8
3	Assist trainees in the improvement of employability behaviors	8
4	Understanding, improving, and adding of new materials	4
5	Prepare study schedule for trainee	3
6	Assess and determine suitability of instructional materials for IMT System	3
7	Assist trainees in the development of contingency contracts	3
8	Precision in diagnosing and prescribing	3
9	Use of reading equipment	3
10	Understanding of Motivation (AIMS) Program	2
11	Use of videotape	1
12	Request and schedule technical assistance	1
13	Working with other agencies — governmental and industrial	1

It may be noted that reading program scored the highest value points. The learning managers perceived the reading program as the most critical area in which they need technical assistance. They also need technical assistance in understanding the Employability Behaviors Program. When completing the questionnaire, the learning managers were unaware of job descriptions of LRC personnel. As a result they expressed a need for assistance in this area. Job descriptions for all LRC staff were explained by the investigator of this study at the time of personal conference.

TABLE 3

Training Needs of Assistant Learning Managers/Learning Aides
N=5

Activity	Value Points
A. Management of LRC	
1. Prepare file folder	0
2. Maintain trainee records and files	2
3. Maintain equipment, materials and supplies	4
4. Prepare orders for equipment, materials, and supplies	3
5. Clean ear phone and plugs	2
6. Conduct tours for visitors	0
B. The IMT System	
7. Read related materials on IMT	1
8. Inform visitors and trainees of IMT services, operation, etc.	1
C. Trainee in the LRC	
9. Administer and score TABE Locator	1
10. Administer and score TABE level E, M, or D	2
11. Prepare Grade Placement Forms and MALD	3
12. Administer and score TABE reading entry check	2
13. Administer Occupational Interest Inventory	8
14. Score Occupational Interest Inventory	8
15. Prepare Prescriptions	1
16. Set up for "Orientation"	3
17. Prepare Introductory Orientation Package	4
18. Administer and score module Pre/Posttests	3
19. Refine Prescriptions based on module Pre/Posttests	4
20. Administer L-100 Reading Assignments	5

The data in Table 3 reveal that out of 20 questionnaire items indicating specific activities, the assistant learning managers/learning aides expressed their need for training in 18 activities. Activities indicated by items 13 and 14 scored the highest value points. Item 20 and items 3, 17, and 19 ranked second and third respectively. The remaining 12 activity items scored between one and three value points. Only two items scored 0 value points.

Additional Training Needs

The additional training needs were:

1. Reading
2. Proper cleaning of equipment

Establishment of Priorities

The value points scored by various items in terms of priorities were:

Priority	Items	Value Points
1	Administer Occupational Interest Inventory	10
2	Reading	8
3	Score Occupational Interest Inventory	7
4	Prepare Grade Placement Forms and MALD	5
5	Refine prescription based on module Pre/Posttests	4
6	Administer and score module Pre/Posttests	3
7	Administer L-100 Reading Assignment	3
8	Proper cleaning of equipment	3
9	Prepare Introductory Orientation Package	2
10	Maintain equipment, materials and supplies	2
11	Administer and score TABE Reading Entry Check	1
12	Prepare orders for equipment, materials and supplies	1

The activity, Occupational Interest Inventory, was ranked first by the learning aides. Since they were never provided technical assistance by TERC staff in these standardized tests — Kuder Occupational Interest Survey, Strong Vocational Interest Blanks and Ohio Vocational Interest Survey, etc. — the learning aides were completely unaware of such occupational interest inventories. The reading program ranked second in terms of priorities.

TABLE 4

Training Needs of Counselor
N=1

Activity	Value Points
Management of LRC	
1. Conduct Exploratory Programs	2
2. Manage Learning Aides	2
The IMT System	
3. Read related materials on IMT	0
4. Inform visitors and trainees of IMT services, operations, etc.	0
Trainee in LRC	
5. Schedule Introductory Program	1
6. Orient trainees to IMT System	1
7. Conduct Exploratory Interview	1
8. Conduct Goal Setting Program	1
9. Interview on prescribed study schedule	2
10. Respond to trainee's learning problems	1
11. Counseling trainee in job placement	0

The data in Table 4 reveal that out of 11 activities listed in the questionnaire, the counselor expressed training needs in eight. Activities indicated by items 1, 2, and 9 scored highest value points and activities indicated by items 5, 6, 7, and 8 scored the same value points.

Additional Training Needs

The counselor expressed need for training in the following areas:

1. Administer and score Occupational Interest Inventory
2. Selection and appraisal of staff
3. Selection of trainees, scheduling of time and making referrals
4. Specifying job descriptions of LRC personnel
5. Supervision of LRC staff
6. Prepare purchase orders for supplies, instructional materials, etc.
7. Request and schedule technical assistance
8. Working with other agencies — government and industry

It is important to note that at the Lively site, the counselor is in overall charge of the LRC and carries out all duties of a learning manager as well. As a result many additional training needs were indicated by the counselor. Other sites utilize either the services of the School counselor or have learning managers who function in both capacities.

Establishment of Priorities

The value points scored by various items in terms of priorities were:

Priority	Items	Value Points
1	Conduct Exploratory Program	4
2	Manage Learning Aides	3
3	Interview and prescribe study schedule	2
4	Conduct Goal Setting Program	1

Conclusions and Recommendations

Since some of the training needs are unique to a particular site, they are treated separately here. Individual data tables for each site are found in Appendix I. A discussion of composite needs of the five sites and general recommendations follow.

Lively Area Vocational-Technical School

There is a poor system of referral made for trainees attending the LRC at Lively. For example, one trainee enrolled in the LRC and referred by Vocational Rehabilitation is legally blind. However, most of the trainees are referred by the WIN Program: Some are mentally retarded and are incapable of working in the LRC. Obviously there is need for improvement.

Information about the IMT System should be provided for the referral counselors, occupational instructors, and other concerned persons so that only those disadvantaged and/or handicapped trainees who can benefit from the individualized instruction are referred to the LRC.

There is some confusion as to job responsibilities of LRC staff with an overlapping of duties, particularly for the counselor and learning managers. Since the counselor is in charge of the LRC, it seems that a revision of her job description is needed.

At this time the LRC staff is not prescribing in the language program. This needs to be corrected.

There is confusion about the reading program and how it specifically relates to the IMT System. The reading program needs to be clarified and, of course, further researched and developed.

The LRC staff indicated that they have large numbers visit the site in order to examine the IMT programs. Since they have to devote much time to these visitors, they feel a need for an "Orientation Package" to give to them. This would be very helpful and save time in disseminating information about the IMT System to other people. They feel that printed brochures on the IMT System should be developed for distribution to various interested agencies and individuals.

In the way of equipment and materials, the LRC staff need the following in order to perform their jobs effectively: an adding machine, staff desks, slide-tapes, the printed brochures on the IMT System for visitors, a supply of Occupational Interest Inventory, and a set of Guides.

Atlanta Area Technical School

The learning managers and learning aides at the Atlanta School ranked their need for training in the reading area as top priority. Since training in this area is of utmost concern to all LRC staff, TERC personnel must provide immediate assistance to them.

LRC staff have expressed a need for additional personnel, particularly in the area of reading proficiency. Also, whenever they face problems about math, they must contact the School's math teacher. The trend toward larger enrollments will demand that additional space and staff be devoted to operations of the IMT System.

LRC staff indicated that they need to have their own counselor in the LRC. At the present time they are depending upon School counselors. Again, with an increased number of trainees, it is essential that they have their own counselor.

LRC staff feel that half of the IMT material is not used by them. Data need collecting and analyzed to determine whether this is actually the case. Further investigation should determine actuality, cause, and corrective measures to be taken.

In terms of materials and equipment needed at the LRC in Atlanta School, the following needs were expressed: additional room for testing, additional room for LRC staff, a typewriter, and LRC office telephones separate from the School.

J. F. Drake State Technical Trade School

Training in establishing and maintaining the reading program was of highest priority to the LRC staff at Drake School. They indicated the need for a great deal of help from TERC staff in that area. TERC staff should provide assistance in reading immediately.

While the LRC staff was satisfied with the space and material supplies, they do need an additional staff member. An additional person would enable the updating and maintaining of trainee records essential to the effective operation of the IMT System.

Birmingham Metropolitan Area Skill Center

TERC staff should follow up on the Director's request for involvement in Phase II activities of the IMT programs. This would include giving technical assistance in certain occupational programs which can be provided to trainees on an individualized basis.

Should the Center implement the Employability and/or Complementary Skills Programs, technical assistance in doing so should be provided by TERC staff.

Gadsden State Technical Trade School

Staffing is the primary need at Gadsden School. The LRC there is run by the learning manager alone. A full-time learning aide should be employed immediately. There seems to be a great demand for IMT services but all potential trainees cannot be served due to limited LRC staff.

Composite Needs and General Recommendations

The following conclusions and recommendations are made on the basis of total findings and data for all the five sites:

1. Overall responsibility for the LRC is borne by staff members whose title varies from site to site. In one LRC the counselor is fully in charge of the Center. In another, the Supervisor of Instructors plays this role. In the remaining 3 sites, the learning managers act as the head of the LRC. This type of

set-up creates confusion and a certain overlapping of duties. It is recommended that one learning manager, or the person designated as counselor and learning manager, should be considered the head of the LRC.

2. The title "Assistant Learning Manager" is used in two sites. The job descriptions are designed for Learning Aide only. In order to have consistency in all the sites, the title "Assistant Learning Manager" should be deleted. The appropriate title, i.e. **Learning Aide**, should be used in all the sites. This title clearly reflects that the primary responsibility of the learning aide is to assist the learning managers and trainees in carrying out learning activities.

3. There is a trend toward increased enrollments of trainees in all of the sites. However, there has been a serious shortage of LRC staff in the Gadsden, Atlanta, and Huntsville sites. Additional trained personnel are needed in these centers.

4. Technical assistance in the area of "reading" has been ranked as first priority by nearly all sites. There has been confusion as to how to utilize the EDL-100 Reading Program in an individualized system. It is recommended that the reading program should be given top priority in providing technical assistance to LRC staff.

5. In addition to the reading program, the LRC staffs need immediate technical assistance in Employability Behaviors, Complementary Skills, and Contingency Contracting.

6. The following changes are recommended in the job descriptions for LRC staff:
   a. The activity "Inform and instruct school staff on IMT services, operations, etc." has been assigned to all LRC staff. This activity should be the primary responsibility of the person who is head of the LRC.
   b. The counselor's job description should include administration and interpretation of Occupational Interest Inventories. Where a counselor is not employed at the LRC, the activity should be carried out by the School counselor. The learning aide can assist the counselor in scoring the Occupational Interest Inventory.
   c. In places where the School counselor has no time to administer and interpret Occupational Interest Inventories for LRC trainees, the learning manager should be provided technical assistance in this area. In any case, this activity should be carried out by a well-trained professional staff member.

7. The determination of technical assistance was limited by the method in this study to the extent that only LRC staff had the opportunity to express their training needs. It is recommended that other personnel, such as TERC staff and administrators of the Schools, should be asked to identify the areas of deficiencies in LRC staff. This technique would provide a sound basis for drawing conclusions relative to the technical assistance needs of LRC staff.

Finally, the continued professional development of the LRC staff is seen as vital in providing the highest quality of IMT System Programs.

CHAPTER V

PROBLEMS AND SUBSEQUENT ACTION

The project objectives have been achieved; however, problems growing out of contract and other limitations did hamper progress. Some of these include narrow scope of project activities, inadequate time and money, delays, unavailable materials, and staff turnover. These and additional problems as well as the subsequent action taken in their solving are discussed as follows.

Insufficient Office Space

Originally, the TERC staff was to be housed at the MDT state offices in Montgomery, Alabama. When the state staff increased in number, the need for more space limited the amount of space available to TERC. Consequently, TERC moved to more adequate office space. The Alabama MDT office loaned TERC much of the necessary office furniture and equipment, thereby solving the financial problem of furnishing a complete office. What was unavailable from MDT was purchased by TERC. This action caused some delays in organizing, but larger and more adequate space improved the efficiency of staff.

Staff Turnover

An experimental and demonstration project which is funded for a relatively short period is always plagued with the problem of staff turnover, inexperienced staff, and insufficient time in which to train them. Even though most of the personnel had excellent background and experience in fields related to the project goals, some had limited knowledge in certain programs being developed for the IMT System.

Several staff members resigned due to knowledge limitations and job insecurity; three accepted jobs with more security, two returned to school to do graduate work, and one moved to another city. One staff member was released because of personal problems.

Consultants having the desired expertise were hired to provide staff training or guidance in developing the reading, employability skills, and mechanical cluster materials. In some cases, the Project Director and the consultants specified requirements for staff and student instructional materials to part-time programmers; for example, part-time programmers were hired to develop the Employability Behaviors Program and the Orientation Tape/Slide sequence for both IMT staff and trainees. Since experienced programmers were unavailable or unwilling to move to Montgomery, other tape/slide/workbook programs for staff were developed by TERC programmers located in the Cambridge office. The expertise which is available from different TERC offices gives an added advantage to its projects in producing quality materials and in conducting experimental demonstrations when special technical assistance is needed. Other part-time staff were hired when the work load required additional help. In this way, TERC was able to conserve funds.

It must be added that as more staff were recruited and hired to replace those that resigned or were released, the Director became more aware of the training, experience, and personal characteristics one would need for this type of project work. At the present time the project has an excellent staff and employs consultants who are actively committed to the project goals. These facts, plus the "management objectives" practice now being utilized by the Director, have alleviated many of the early problems and improved the productivity and satisfaction of staff members.

Basic Remedial Materials for Reading

One of the early assumptions was that it would be possible to draw diagnostic tests, instructional modules dealing with specific skills or learning needs, and module tests for objectively managing trainee progress from the many published programmed reading series. The reality is that none of these have been found in the area of reading. In fact, no model or theory of reading has been developed that would permit the development of individualized instructions in reading beyond the decoding level (see, for example, the final report of Project No. 8-073 Grant No. OEC-0-8-080737-4335).

Reading instruction at both remedial and development levels is clearly essential to the IMT System. To meet this need, we selected one of the best (as assessed by consultants and by a review of field test data) instructional systems for teaching reading to adults, the ED Learning 100 System and, with the publisher's cooperation, have developed a means for using this system in a way compatible with the individualized instructional process. A similar adaptation could be done with some of the other programmed reading series if the tryout of this reading program proves to be successful.

While the EDL reading program was being analyzed and the staff training materials were being developed in order to integrate it into the IMT System, it was necessary for representatives from reading publishers to provide training on the proper use of their reading materials to the IMT staff. The problem of scheduling a convenient time for this training caused IMT staff to delay or to be hesitant in utilizing all the materials purchased. Now that most of the staff have been trained and are gaining more experience with the various reading materials, they are developing more confidence with the reading program.

The staff training materials for the EDL reading is now ready for tryout and assessment. As soon as this is completed, improvements will be made and other materials can be evaluated and correlated to the System so that the reading program will be more comprehensive than what is now available.

Basic Remedial Materials for Language and Math

The basis of the IMT System is the system for language and math developed by the RRF. In some cases, publishers have stopped publication of materials, revised others and introduced new and better materials. The individualized language and math catalog requires updating. Those areas requiring substitutions have been referred to the Foundation. In addition, a survey and review of materials is now being conducted by TERC according to the criteria developed for the selection of individualized instructional materials.

Materials Relating to the Employability and Complementary Skills

Deficiencies in skill and knowledge in occupational and educational areas are clearly not the only barrier to the employability of the disadvantaged. Studies have shown, for example, that the disadvantaged have behavior patterns concerning time, other peoples' supplies and equipment, and rules and regulations which get them fired with monstrous regularity. In addition, the disadvantaged lack skill in handling money, credit, health and diet which result in problems affecting their work and their ability to benefit from employment.

These problems must be dealt with not only for the sake of future employment of the trainee but also to enable staff to manage trainees while they are within the IMT System. An extensive survey of available materials and programs showed that **none** were suited to an individualized training system. As a temporary measure, some materials dealing with complementary skills have been assembled into a program compatible with the IMT System. Even so, the range of usable published materials is very small. Very few published materials in this area are both usable by the disadvantaged **and** relevant to their needs. To overcome this, the project staff and consultants are, at conventions and meetings, advising publishers and program developers of the nature of individualized instruction and the criteria for evaluating published materials for inclusion in an individualized instructional program for use with disadvantaged populations.

The employability behaviors which cause problems are rarely due to lack of knowledge — they are behaviors established by the physical and social environment. To deal with them we have developed a motivational and management program for trainees in the IMT System. The initial program is comparatively simple to insure its implementation and to provide data to guide future development of a program that will achieve the purposes of motivating trainees, reducing drop-out rates, changing employability behaviors during training, and maintaining job-keeping behaviors after placement.

Mechanical Cluster Materials

There was some delay in receiving recommendations from members of TAC and the CCU for the prototype of the occupational cluster to be developed for the IMT System. After the mechanical cluster was selected, considerable time was consumed in surveying and reviewing task analyses and training ma-

terials in order to identify the specific mechanical occupations which have common tasks and related instruction suitable for the core curriculum.

Several approaches were explored before a decision was made to use the "task oriented" approach which was considered to be more realistic for the disadvantaged adult. Had a "principles" approach or a "tools and equipment" approach been used, a great many mechanical occupations could have been included, but a trainee would have had the course with only a generalized knowledge of his field. The graduate of a task oriented mechanical cluster curriculum, on the other hand, would be readily accepted into advanced occupational training courses or at an entry level position in any of the cluster occupations because of his proven competence in performing certain basic tasks. Once the "task oriented" approach had been chosen, it was then necessary to identify those occupations in which a significant number of tasks would be common to about 80% of the occupations included. This required the examination of task lists for a great many mechanical occupations before those to be included could be identified. As a result of this procedure, the cluster was restricted to those mechanical occupations in which workers assemble, dissemble, adjust, service, repair, or regulate any kind of internal combustion reciprocating engine-driven machinery.

As one would expect in any research and development efforts, several approaches were explored and abandoned before settling on the approach to develop and tryout. This was certainly true in developing the core curriculum for trainees in the mechanical cluster program and for staff who would be establishing and operating it in an IMT System.

Even though there was only one professional staff member working on this objective, the materials have been prepared and are ready to be programmed for tryout. The experience in developing the mechanical cluster curriculum has taught a great deal that should enable TERC staff to save time and effort in developing other occupational cluster curriculums. A pattern has been set that will circumvent most of the problems experienced with the mechanical cluster curriculum.

One major problem not yet resolved is that of developing a **complete** mechanical or other cluster curriculum that can be used without adaptation and/or modifications and that will teach trainees to perform the same tasks on all kinds of internal combustion reciprocating engine-driven machines of all manufacturers for all year models. Only a few publications or service manuals are found which include instructions for servicing all year models and series of one manufacturer's machines. More exploration and study needs to be given to this problem.

Perhaps there is no need in manpower development greater than the need for development and utilization of more occupational cluster curricula.

Management of IMT System

The staff training in establishing and operating the IMT System appears to be successful in **enabling** staff to perform their jobs. That staff **do** perform their jobs and **continue** to do so is a function of much more than just their ability. Management, in a very real sense, gets what it inspects for. Detailed guides to establishing and operating the IMT System have been developed. Performance according to the design, however, depends on management appraisal of performance and achievement. Until this is completely routinized both as to frequency and as to criteria for appraisal at each stage of development, some comparatively minor deviations in schedule and achievement are bound to occur during establishment of the IMT System in the demonstration sites. More significant deviation can be expected by other trainers in ongoing implementations unless an adequate management routine is developed and implemented.

The management routine includes provision for technical assistance. Within the constraints of developing staff training materials, the frequency of contact, and the specification of what was appraised have been inadequate in the present program. All the work that was involved in developing the System, in conducting staff training, and in performing many other administrative and utilization tasks made it impossible for the Project Director, the only available staff person who had actually operated an individualized instructional system, to give enough attention to ongoing technical assistance and appraisal. The problem of overloaded management resources was compounded by delays in the scheduled establishment of pilot demonstration sites which caused conflicts with other project deadlines.

The selection and management of staff and of trainees are two areas in which problems will only appear as operating experience develops. As staff became more experienced, they were able to begin the development of performance criteria which is gradually leading to better management and more efficient operations.

Management plans and flow charts were developed for administrators and the IMT staff at the pilot demonstration sites in order that the staff would know what task had to be performed when, and by whom in establishing the System. These plans proved to be more effective than the narrative written in the original plans for each site.

Assessment

The development of effective individualized instruction is based on the concept of formative feedback. The initial analysis and design produces an instructional system which makes use of the best available information. During tryout, data is gathered which, after interpretation, will indicate the areas in which the products should be improved to be more effective. The tryout provides formative feedback.

Descriptive assessment provides data on the features of the processes, products, and effects of a program. But only if the data can be compared with standards and interpreted into action relevant to the development of the system will the assessment meet the needs of developing the IMT System. The project staff were not able, within the constraints of developing training materials, to develop an adequate formative assessment or feedback system. The sub-contracted assessment program was more in the nature of descriptive assessment based on observations and established standards and purposes. A continuing program of formative assessment is essential to maintaining and improving the IMT System.

Location Changes for Pilot Demonstration Sites

Unavoidable circumstances made it necessary to reduce the number of pilot demonstration sites and to substitute one site for another. Two MDT sites and one technical school site in Alabama were unable to finance the demonstration because of cutback in funds and unexpected emergencies requiring funds. A change in state and local administration contributed to the fact that one location failed to cooperate according to the original commitments.

Since the Florida Division of Vocational Education was on the Technical Advisory Committee and already interested in implementing the IMT System, they responded immediately to an invitation that they become one of the pilot demonstration sites. However, the additional time and expenses required in contacting the state, county, and school staff and in developing a plan for implementation meant that it was impossible to have as many sites as were planned originally.

Delays in Establishing Sites

Delays caused by several factors accounted for scheduling problems. For example, some purchases had to wait for bids and approvals, and delivery of the items was late. In some cases, the hiring of personnel was not completed by the time staff training was conducted. In one instance, staff training had to be rescheduled for this reason. One IMT aide hired after the staff training was completed was trained by the head learning manager with technical assistance from TERC. All of these problems contributed to the delays in scheduling trainees into the LRC. All sites had trainees enrolled by January 1972. As the result of this late enrollment, it has not been possible for us to conduct the type of assessment needed to determine the effectiveness of the programs.

In order to avoid these same problems at new sites, the TERC staff developed a management plan that included a list of tasks, conditions required, and performance criteria along with a schedule of events listing staff responsible for each task. This management plan is now a part of the Establishing Guide.

Training Schedule for Operating

Since this project was scheduled to conduct staff training between the seventh and thirteenth month of the contract period in order to achieve its goal of revising the staff training materials, it had to conduct

training at the pilot demonstration sites before the facilities were ready for trainees. This meant that staff did not apply immediately what they had learned at the workshops. Even so they very quickly remembered most of the processes. In order to avoid this problem, a reference guide was developed for operating which specifies procedures and criteria for performance. Also, a more realistic schedule for several training steps has been adapted. Orientation and establishing sessions will be offered early and the training on operating will come after the facilities are ready for trainees. Such a schedule would make immediate application possible.

Participants at Workshops with Different Interests

Participants attending the staff training workshops had different reasons for attending. Hence their degree of interest varied. Their levels of knowledge and experience also differed.

In order to provide the type of training needed for each individual, it was necessary to modify and develop the staff training materials and System so that each participant had a training program tailored to his own needs and interest. Self-instructional tape/slide/workbook programs were developed and CCU members reviewed them and made recommendations for improvements. These recommendations have already been incorporated in the final form.

Confusion of Job Responsibilities by IMT Staff

The job descriptions in the plans for each pilot demonstration site were not adequate for one site because their job qualifications were different from those at the other sites. Consequently, there was some confusion in establishing their staff functions. As a result of this confusion TERC staff analyzed the various positions to determine which functions would be most appropriate and what qualifications would be desirable. Then a revised job descripiton was written and sent to each site. Qualifications for employment are also being recommended to each new site. This revised list of job descriptions contains the tasks and refers each staff member to the appropriate training materials or guides for performance, instructions, and criteria. These lists of tasks were used as the basis for assessing the need for additional training by TERC.

Inadequate Space at Pilot Demonstration Sites

The lack of convenient private office space for interviews and personal counseling limited the IMT staff's ability to provide attention to trainees about personal matters.

A convenient room is also needed at one site for small group work and testing. Requests have been made for an office and plans for expanding the present area so that the original specifications can be met and so that more trainees can be enrolled have been discussed.

Trainee Schedules Inadequate for Achievement Needed

Because of other area demands on their time, some low achievement-level trainees were not scheduled for as much time as was needed. In some cases occupational instructors were afraid to release their trainees to the LRC area too long for fear of losing funds based on hours of attendance. The State Department of Education in Florida is in the process of developing new funding procedures which will help to overcome this problem. And too, some occupational instructors are cooperating now by scheduling their own group instruction at a time that does not conflict with the trainees' LRC schedule.

Trainees were referred to the LRC for just reading, or just math, rather than for a complete prescription in all remedial areas needed. This prevented measurement of overall achievement level from pre- to posttest.

Insufficient staff in two LRC's limited the number of enrollees who could benefit from the programs. Proper records on the trainees' progress were not kept due to the unbalanced ratio of staff to trainees. When counselors were too busy or the learning manager did not have time, they sometimes failed to administer posttests to trainees before they left the LRC. Since additional funds were not available for more staff at these sites, part-time staff were employed to facilitate the operation of the IMT System.

In the beginning, a few trainees from the Work Incentive National (WIN) Program were placed in jobs before they could be posttested. After the IMT staff explained the importance of recording trainee progress, the Employment Service did not repeat this action.

Consortium Meetings

Attendance at most of the CCU meetings was good considering the demands made upon the teacher educators who were members; however, the time required for their training and their reviews of materials did not permit participation by all members. In order to accommodate those members who wanted the training but were unable to attend on the scheduled days, TERC provided individualized training in the Montgomery office.

Technical Advisory Committee Meetings

On the whole attendance was unusually good. One state failed to have representation at two meetings but the other meetings had representation by most of the member organizations. The advice and assistance provided by certain members of this group significantly influenced the products and processes developed by TERC staff. However, more involvement by members would be very helpful in future work. Toward that end, informative materials will be mailed to TAC and more contacts will be made requesting their assistance.

Orientation for state and local staff are planned in order to acquire cooperation from those interested in providing individualized instruction for the disadvantaged.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

Staff Training to Establish and Operate the IMT System

The primary purpose of this project has been to demonstrate the feasibility and effectiveness of a relatively short training program in training staff to establish and operate an individualized manpower training system. To achieve this primary purpose, the project team had to develop and implement a staff training program, and to assess results.

During the eighteen months of the project, the feasibility of training staff to establish and operate the IMT System has been clearly demonstrated. One previously established site, Gadsden State Technical Trade School, and three IMT System sites in Atlanta, Tallahassee and Huntsville are providing trainees with services of the IMT System. While there are variations in application of the concepts and procedures of the IMT System, each of these new sites is clearly operating the essential features of the System and clearly providing trainees with the main benefits of the System.

The staff training program was developed in a series of approximations involving tryout and revision on the basis of each tryout. The staff training program now available, while still having room for useful improvement, does effectively enable site staff to establish and operate the IMT System. Problems and undesirable deviations which have occurred in establishing and operating the IMT System at individual sites are less a function of the System and the staff training program than of circumstances and limitations peculiar to each site. In some cases the assessment, feedback and technical assistance required to eliminate these local problems were beyond the scope of this project and are dealt with in the recommendations for the next phase of the project. (See Recommendations: Assessment) In drawing conclusions concerning the achievement of the primary purposes of this project, it is useful to note that Florida, which had only one site during this project is committed to establishing two new sites during the next phase, and to using teacher educators to implement the staff training program using the materials developed during this project. Florida will contribute $250,000 during the fiscal year to utilization of the IMT System.

Expanding the Programs in the IMT System

Secondary purposes of this project were to:

1. Expand the range of the IMT System beyond the existing language and math programs into the areas of reading and employability skills. The expansion was to be achieved by selecting suitable instructional materials from those available from publishers and to build these materials into the IMT System using the same methods as for language and math.
2. Develop a model individualized training system, based on published materials, for a cluster of occupations. The mechanical cluster was selected as the occupation for this model at the suggestion of the Technical Advisory Committee and the Consortium of Colleges and Universities.

The principal conclusions to be drawn from the work done towards achieving these secondary purposes are:

1. The state of the art in applying modern technology to the development of materials suitable for use in an IMT System is considerably behind what was anticipated. In the areas of reading, the employability skills, and mechanical occupations, no ideal published materials were found which were based on or could be modified economically for use in the essential processes of the IMT System (diagnose specific learning needs, prescribe learning modules specific to each need, evaluate the learning achievement).
2. In reading and in the mechanical occupations, task analysis and behavioral descriptions or criteria have yet to be developed to a level usable as a basis for achieving the project purposes. In other words, not only are materials suitable for an IMT System **not** available from publishers, but no theoretical or practical analysis of skill has been found with which project staff could easily correlate instructional materials if they were available.

3. The project staff responsible for the new components of the IMT System eventually adopted approaches to reading, employability skills and the mechanical cluster which would make needed learning opportunities available to trainees, would permit the development of staff training and would result in products ready for tryout and evaluation at IMT System sites. To do this meant, to different degrees, departing from one or more of the essential features of the IMT System. The impact of these compromise approaches can only be determined following tryout.

4. The conflict between commitment to project purposes and frustration in identifying approaches which offered some prospect of success, contributed to frustration and confusion among some project staff, who were inexperienced in the experimental and demonstration processes required in designing and developing instructional materials and systems.

General

During this project it has become evident that more than effective staff training is needed to secure the benefits of the IMT System for trainees. The other factors which have significant impact are:

1. The commitment of administrators at all levels in which the IMT System is established to insure the requirements for success are satisfied, once the go-ahead decision has been made.

2. The effective local management and development of site staff to insure adherence to the concepts and procedures for establishing, operating and improving the IMT System.

3. The development of an understanding of the IMT System by vocational instructors and agencies which refer trainees to the IMT System such that trainees are referred who can benefit from the services provided, trainees are scheduled for training for a time appropriate to their needs, and trainees are referred in number and kind that effectively utilize all the resources of the IMT System.

During this project it became evident that the conduct of a project involving development of staff training materials, development of materials for trainees, tryout and revision of materials, technical assistance to sites, co-ordination with advisory committees, and dissemination of information to potential new sites, places great demands on a small project staff. These demands can readily become excessive if problems are not rapidly identified and overcome. In some cases this involves recognition that some objectives cannot be achieved as specified and should be modified.

Recommendations

Formative Assessment and Management

Few members of the TERC staff, of IMT System site staff and state administrators have experience in developing, establishing and operating an IMT System. To enable inexperienced personnel to apply their existing skills and develop the necessary new skills, more than training is required. Guidance is needed during on-the-job experience. The most effective and comprehensive guidance is gained from a system of formative assessment that enables each individual to assess his own achievement and redirect his own activities to improve his achievement. This should be backed up by a management system that monitors results and provides necessary technical assistance, in-service training and system modification.

It is recommended that a formative assessment and management system be developed and implemented for all aspects of the recommended activities for the future development and utilization of the IMT System.

Tryout of Products Developed During This Project

The new products developed during this project include programs for reading, employability behaviors, complementary skills and the mechanical cluster. In each case new materials and procedures had to be developed to overcome problems in providing individualized learning opportunities. These new materials and procedures have not yet been validated. Existing IMT System sites should be trained to operate these new programs and their appropriateness and effectiveness assessed under practical conditions. The materials and procedures should then be revised before they are implemented at other sites. The tryout, assessment and revision should be subjected to the proposed formative assessment and management system

to ensure effective implementation for tryout purposes, collection of necessary data and the identification of both the subject area and kind of revision required.

Expansion of Utilization to New Sites

The demonstration that site staff can be trained to operate the IMT System, the refinement of staff training materials and programs, and the further development of the IMT System and materials to provide the required services to trainees all require expansion to new sites in order to have a significant number of staff and trainees to validate materials and to determine the System's effectiveness. The new sites should meet the following requirements:

1. In terms of finance, location and commitment of administration, the sites should be able to establish appropriate facilities, recruit and retain appropriate site staff and secure trainees in appropriate number and kind.
2. The sites should be able and willing to provide the feedback information essential to the further development of the IMT System and staff training.
3. The state and local staff should be able to contribute expertise and advice relevant to the further development of the IMT System and staff training.

Three sites in California and two sites in Florida which meet these requirements have been identified and they have made the necessary commitments. Their state and local contribution totals $588,000.

It is recommended that utilization of the IMT System be expanded to these five new sites.

Analytical Inventory

During this project the ability of the project director to manage the project staff and provide the technical assistance required by IMT System sites was significantly hampered by the competing demands on her time to give presentations to cooperating agencies, to provide advice and planning assistance to administrators interested in utilizing the IMT System and in developing budgets and proposals for those who qualified for new sites. This work load would be significantly reduced, and the end results significantly improved by the development of an Analytical Inventory.

The Analytical Inventory would:

1. Enable administrators, members of advisory committees, teacher educators, and others to determine the nature of the IMT System, the trainees for whom it is designed, and the methods for referring trainees. It would also provide data gained from assessment of existing sites.
2. Enable administrators to determine the requirements (in money, facilities, staff, and cooperation with TERC) for establishing and operating an IMT System site, and to make decisions necessary for qualification as potential new sites.
3. Enable administrators to make an inventory of existing resources and develop the necessary budgets, proposals and schedules.
4. Enable IMT System staff to communicate with vocational instructors and referring agencies in order to gain an intake of trainees which will ensure effective and efficient use of the IMT System site resources and services.

It is recommended that an Analytical Inventory be developed to satisfy these requirements.

Work Sampling

It is evident that trainees referred to the IMT System make much greater progress in learning when there is a clear relationship between the learning opportunities prescribed for them and an achievable and explicitly specified educational or occupational goal that they have chosen. Some trainees lack the necessary exposure to work to make a choice of goals on a realistic basis. The IMT System provides an exploratory

program for its trainees. The part of the program which provides exposure to the tasks involved in different jobs is deficient in quality and scope. It is considered essential that the work sampling program be improved. This involves reviewing relevant materials available from publishers and manufacturers and selecting those that appear suitable for inclusion in a tryout program at one or more IMT System sites.

It is recommended that work continue on the development of the work sampling component of the Exploratory Program.

Referral Guide for IMT System Staff

It is evident that staff are inadequately prepared for the following tasks:

1. Identifying, contacting, and cooperating with agencies in their area who have the potential for referring trainees to the IMT System.
2. Identifying the agency and specific individual to whom an IMT System trainee can be referred for assistance and advice in relation to specific problems, needs or opportunities.
3. Identifying types of jobs and specific employers providing appropriate opportunities for IMT System trainees.

It is recommended that work be started on the development and implementation of a guide to assist staff to perform these tasks.

Miniaturization of IMT System Products

The physical volume of IMT System products now presents significant problems in transporting them to presentations and workshops. It is recommended that possible ways of reducing the bulk of the products be researched and recommendations developed for overcoming the problem.

General

In addition to work pursuant to the above recommendations, a significant work load will be encountered in improving IMT System products and procedures on the basis of evidence from formative assessment and product tryout. An equally significant workload will occur in relation to the coordination, advisory, and dissemination activities necessary to achieve the project objectives. It is recommended that adequate resources be allocated to allow activities in these two areas to be pursued on an effective scale.

REFERENCES

A Computerized Communication Skills Program for Students in Vocational Education. **Educational Technology**, March, 1971, pp. 49-51.

An Individually Prescribed Instruction System. Elmore, Alabama: Rehabilitation Research Foundation, 1971.

Appalachian Adult Basic Education Demonstration Center. *State Module Final Report.* Morehead, Kentucky: Morehead State University, 1970.

Bakke, R. L., DeMarre, D. A., Goldman, D. B., & Ullery, J. W. *Task Analysis by Selected Criteria: A Manual.* Cambridge, Massachusetts: Technical Educational Research Centers, October, 1971.

Bell, D. A. *Innovations to Adult Basic Education Using Programmed Instruction.* **NSPI Newsletter**, Vol. X (10), December, 1971.

Bolvin, J. O., & Glaser, R. *Development Aspects of Individually Prescribed Instruction.* Pittsburgh: University of Pittsburgh, Learning Research and Development Center, 1967.

Carter, J. B. *Integrating Programmed Instruction Materials into ABE Programs: The Learning Laboratory Approach.* Raleigh: North Carolina Department of Community Colleges. Center Seminar and Conference Report No. 1, Institute for State and University Level Adult Basic Education Personnel, July 21-August 1, 1969.

D'Costa, A. G., Winefordner, D. W., Odgers, J. G., & Koons, P. B. *Ohio Vocational Interest Survey, A Manual for Interpreting.* New York: Harcourt Brace Janovich, Inc., 1970.

Homme, L., & Csanyi, A. *Contingency Contracting, A System for Motivation Management in Education.* Albuquerque, N.M.: Behaviors Systems Division, Westinghouse Learning Corporation.

Individually Prescribed Instruction, A Manual for the IPI Institute. Philadelphia: Research for Better Schools, Inc., 1966.

Individualized Study Programs in the General Secondary School Curriculum. **Educational Technology**, July, 1969, pp. 45-47.

Oak Ridge Associated Universities. *Training and Technology, Highlight Report.* Oak Ridge: Union Carbide Corporation, March, 1972.

Oakleaf School: A Model for Individually Prescribed Instruction. Report No. 3. Philadelphia: Research for Better Schools, Inc., 1969.

Pfau, G. S. **Educational Technology,** August, 1970, p. 13.

Tiegs, E. W., & Clark, W. W. *Tests of Adult Basic Education*, Monterey, California: California Test Bureau/McGraw-Hill, c. 1970.

University of Pittsburgh. *A Model of Teacher Training for the Individualization of Instruction, Final Report.* Washington: U.S. Government Printing Office, 1968.

Appendix A

Definition of Terms

DEFINITIONS OF TERMS

Assess. To perform a critical analysis and judge the effectiveness of the total project and its products and the procedures involved in accomplishing the objectives.

Assistant Learning Manager or Learning Aide. This title is used to designate that person whose primary responsibility is to assist the counselor, learning managers, and trainees in a field of specialty, such as testing, language, math, reading, etc.

Basic Remedial Education Materials. Instructional materials developed on the adult level using programmed and semi-programmed formats for the purpose of providing individualized instruction in the basic concepts of language, mathematics, and readng.

CCU. Consortium of Colleges and Universities — representatives from teacher training institutions designated by members of TAC to provide input to the project in its design, development, tryout, revision, implementation, and utilization.

Committee on Occupational Education. The Committee of Southern Association of Colleges and Schools which is responsible for conducting the external assessment.

Complementary Skills. Those skills which are needed to live responsibly in modern society. For example, money management, credit buying, diet and health.

Core Curriculum. A combination of courses containing the basic knowledges and skills which are needed by all trainees in a particular occupational area regardless of the eventual area of specialization.

Counselor. This title is used to designate that person who aids the trainee to discover and define his goals and, through his own efforts, to acquire new self-understanding and better modes of action.

Demonstration Phase. (July, 1971 - January, 1972) The second six months of the project in which staff training was conducted for pilot demonstration sites. Staff were trained to establish and operate the individualized system in basic remedial education.

Developmental Phase. (January 1 - July 1, 1971) The first six months of the project which were devoted to the compilation, organization, and preparation of materials to be used in the pilot demonstration.

Disadvantaged or handicapped. The trainee who has difficulty achieving in school because of his background.

Employability Behaviors. Those work habits which are essential to obtain and hold a job.

Individualized Instruction. An instructional device designed to meet the individual needs of the trainee.

IMT System. Individualized Manpower Training System — a system in which the specific preoccupational and occupational needs of disadvantaged youths and adults are identified through diagnostic procedures and an individualized program of study is established for each student. Various instructional strategies (programmed materials, audiovisuals, group interaction, etc.) are utilized to provide the necessary learning experience for the individual student.

IMT Staff. The professional staff of the Learning Resource Center who assist the trainee toward the attainment of his goals in the IMT System.

Learning Manager. This title is used to designate that person who is mainly responsible for managing all materials/responsibilities at the LRC for the operation of IMT programs for trainees. These professional staff members are called "learning managers" to emphasize the difference between their role and that of the traditional "teacher." Rather than spending their time in "lecturing" to groups of students, much time is spent in evaluating an individual trainee's achievements, diagnosing his needs, preparing individual

learning prescriptions, providing incentives valued by him, and evaluating his progress. The learning managers participate in staff-trainee conferences discussing the individual trainee, evaluating and adapting instructional materials, and making future plans with each trainee.

Learning Resource Center. The facility which provides learning environments for the trainee and the instructor to use individualized instructional materials.

Monitor. To observe and check for the purpose of identifying strong and weak points of a particular procedure or activity.

Observational Analysis. A process of identifying critical elements of a procedure through observation.

Participant-Observer. A selected participant in the workshop who observes the instructional process, and other participants' reactions to the instruction, and provides feedback for assessment purposes.

Pilot Demonstration Trainees. Enrollees selected as participants in the pilot demonstration sites that are implementing the IMT System.

Project. Research and development procedures designed to develop, demonstrate, and assess the individualized staff training program for the purpose of providing a model to be used to train educators in the techniques of establishing, operating, and maintaining an Individualized Manpower Training System in the area of basic remedial education.

Project Director. The person responsible for directing, coordinating, and supervising the total project.

Research and Assessment Coordinator. The Southern Association of Colleges and Schools staff member who is responsible for analyzing and assessing the project staff activities and submitting quarterly assessment reports.

SACS. The Southern Association of Colleges and Schools — the subcontractor whose function is to provide the external assessment of the project and to assist in coordination activities.

Staff Training. This term is used to identify any organized learning experience which is prescribed to employees prior to or during the employment period. It is training directed towards developing understanding of job operations and standards, agency philosophy, policies, and procedures as well as updating technical knowledge.

Staff Training Materials. The materials compiled, modified, and developed by the project staff to be used to train instructors, supervisors, administrators, and others who establish, operate, and maintain IMT programs.

TAC. The Technical Advisory Committee consisting of the State Directors of Vocational Education and Vocational Rehabilitation for the States of Georgia, Alabama, Florida, and Tennessee and, one representative from American Vocational Association, the Divisions of Manpower and Adult Vocational Technical Education of Health, Education and Welfare, and the Manpower Administration of the U.S. Department of Labor. Regional representatives from the office of Education and the Manpower Administration also served on TAC.

TERC. The Technical Education Research Centers—the prime contractor with the U. S. Department of Labor.

Utilization Phase. (January, 1972 - June, 1972) The last six months of the project during which workshops were conducted to inform others who would be interested in operating the IMT System. Teacher educators, members of the CCU, were given training and exposed to the new materials developed.

Workshops. Training sessions conducted by selected institutions for the purpose of developing qualified personnel in the area of individualized instruction and of informing others to create interest and to assume cooperation.

Appendix B

Letters of Commitment for the Project

State of Alabama
Department of Education
State Office Building
Montgomery, Alabama 36104

ERNEST STONE
STATE SUPERINTENDENT OF EDUCATION

November 2, 1970

Mrs. Donna M. Seay
Supervisor of Special Services
Manpower Development and Training
Suite 120
Ten High Building
Montgomery, Alabama 36104

Dear Mrs. Seay:

After having evaluated your proposal, it is my belief that the regular MDT projects throughout the state, as well as the Cooperative Programs currently underway in Decatur and Anniston, can profit a great deal from an application of the principles which the proposal incorporates. We have already experienced the results of the individualized approach at the Birmingham Metropolitan Skill Center, and it appears that the further implementation of the total program as described within the proposal would greatly enhance the overall training system there.

It is the intent of MDT in Alabama to exert every effort toward improving the vocational training programs available to the disadvantaged and handicapped individuals served by the various projects. We have recognized that the most successful training programs are those implementing the individualized instruction concept. We have also come to recognize the need for having more of our staff personnel trained in order to further implement and operate the MDT projects along the lines of individualized instruction.

MDT is pleased to support the program outlined in the proposal, and we shall be glad to cooperate in your efforts to implement the program in certain MDT projects both for demonstration purposes and in order to field test and evaluate the program content.

Sincerely,

Charles F. Bilbro

Charles F. Bilbro, MDT
Acting State Supervisor

CFB:ahb

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DEPARTMENT OF EDUCATION
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JACK P. NIX
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H. TITUS SINGLETARY, JR.
ASSOCIATE STATE SUPERINTENDENT OF SCHOOLS

GEORGE W. MULLING
STATE DIRECTOR
VOCATIONAL EDUCATION

November 13, 1970

Mrs. Donna Seay
MDT Supervisor of Special Services
10 High Building
High Street and S. Court
Montgomery, Alabama

Dear Mrs. Seay:

I have reviewed your proposal to develop, demonstrate and utilize an individualized staff training program, and find it interesting and very much needed. My staff and I would like to support and cooperate by providing a developmental and demonstration site in Atlanta.

Arrangements will be made for our staff to be trained and the necessary facilities will be established to meet the specifications required for the implementation of the individualized system in the area of basic remedial education.

As you requested, I would be willing to serve on your technical advisory committee for this project.

Sincerely,

George W. Mulling
State Director
Vocational Education

GWM:mac

THE UNIVERSITY OF GEORGIA
COLLEGE OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
ATHENS, GEORGIA 30601

DISTRIBUTIVE EDUCATION
AGRICULTURAL EDUCATION
HOME ECONOMICS EDUCATION
INDUSTRIAL ARTS EDUCATION
BUSINESS AND OFFICE EDUCATION
TRADE AND INDUSTRIAL EDUCATION

October 23, 1970

Mrs. Donna M. Seay
Supervisor of Special Services
MDTA Section
Division of Vocational Education
State Department of Education
Suite 120 - 10 High Building
Montgomery, Alabama 36100

Dear Mrs. Seay:

I enjoyed your visit here this morning very much, especially the discussion relative to your proposal to develop a project involving a staff training program in the use of an individualized manpower training system. As you probably know, we people in vocational education, especially those of us with teacher education responsibilities in this area, are vitally concerned with the entire area of programs for the disadvantaged and handicapped student.

Although I cannot make any commitments relative to our participation in such a project, I can assure you that we are greatly interested in the problem area and that I will be happy to explore the matter fully with you at any time with the idea of determining our possible contribution to the project. Certainly we shall want to draw upon it to strengthen our own programs.

We enjoyed your visit and look forward to hearing from you.

Sincerely,

G. L. O'Kelley, Jr.

George L. O'Kelley, Jr., Chairman
Division of Vocational Education

GLO/jmh

AUBURN UNIVERSITY

AUBURN ALABAMA

36830

SCHOOL OF EDUCATION

Vocational, Technical, and
Practical Arts Education

September 18, 1970

Telephone 826-4431
Area Code 205

Mrs. Donna M. Seay
State Supervisor of Special Services
Manpower Development and Training Program
Division of Vocational Education
State Department of Education
Montgomery, Alabama

Dear Donna:

I have had an opportunity to evaluate the proposal entitled "Proposal to Develop and Utilize An Individually Prescribed Instructional System for Staff". This proposal is an outstanding piece of work and reflects your ability in and knowledge of IPI. I am sure that the Department of Labor will realize the merit of this proposal, and funds will be forthcoming. Thank you for the opportunity to read and react to this project. If I can be of any assistance to you, please do not hesitate to contact me.

Cordially yours,

J. W. Selman
Associate Professor

52/20

UNIVERSITY OF ALABAMA
COLLEGE OF EDUCATION

DEPARTMENT OF
VOCATIONAL AND INDUSTRIAL ARTS
EDUCATION

TELEPHONE 349-6053
P. O. BOX 6243
UNIVERSITY, ALA 35486

October 30, 1970

Mrs. Donna Seay
Supervisor of Special Services - MDT
Division of Vocational Education
10 High Building Suite 120
High Street
Montgomery, Alabama 36104

Dear Mrs. Seay:

Your proposal for Federal assistance with an experimental and developmental project to develop, demonstrate, and evaluate a staff training program in the use of an individualized manpower training system has been reviewed. It has been recognized for a long time that there is a need for, and more emphasis upon, and better ways to conduct individualized instruction in public education.

As Chairman of the Department of Vocational and Industrial Arts Education, College of Education, University of Alabama, we can assure you of our full cooperation with any promising innovations such as this project is designed to develop. We can commit no funds unless additional amounts are made available for our budget.

The concept of individually prescribed instruction makes good "educational sense". We hope the project will be approved.

Sincerely,

M. O. Hulsey
Chairman

STATE OF ALABAMA

DEPARTMENT OF MENTAL HEALTH

502 WASHINGTON AVENUE
MONTGOMERY, ALABAMA 36104

September 14, 1970

STONEWALL B. STICKNEY, M.D.
COMMISSIONER OF MENTAL HEALTH

ALBERT P. BROWER
GOVERNOR

Mrs. Donna M. Seay
Supervisor of Special Services
Manpower Development and Training
State Department of Education
State Office Building
Montgomery, Alabama

Dear Mrs. Seay:

I have reread your report and found it very exciting, despite the modesty of your claims. Since 1967 I have been convinced of the general value and wide application of IPI to all sorts of educational settings. The Learning, Research, and Development Center under Bob Glaser at the University of Pittsburgh had an excellent IPI program at Oakleaf School. I consulted there weekly for a year (as did Mr. Frances Todd of our staff) and have never seen elementary education work better. The students and faculty were actually happy - an unforeseen by-product - and the spontaneous use of the library had risen very sharply, another bit of serendipity. Zest and curiosity had returned to education, a very rare thing to see.

I believe from my talks with you and Dr. McKee, from your demonstration here, and from your report that your present grasp of principles and methods of IPI is superior to anything we saw in Pennsylvania.

There are obvious, across the board applications for IPI in our institutions, clinics, day care centers for pre-school children, retarded and disturbed children. I am thinking not only of patients, but of IPI programs for staff, especially aides.

Our proposed skills centers for young adults at Eufaula and at Thomasville will be excellent places to apply IPI, and also in the nearby trade schools.

So, in answer to your first question, we are definitely interested in providing IPI programs throughout our Department.

The second question, which involves where, when, and how, is still answered affirmatively but will need negotiation. Mr. Jim Harkins, who has read your report with much interest, has been designated to work with you should you wish to proceed further.

Thank you for your interest in this Department, and for being such a good teacher to us.

Cordially,

Stonewall B. Stickney, M.D.
Commissioner of Mental Health

SBS/mek

cc: Mr. J. B. Harkins

Appendix C

Roster of Members of the Technical Advisory Committee

ROSTER OF

MEMBERS OF THE TECHNICAL ADVISORY COMMITTEE

Mr. T. L. Faulkner
State Director
Division of Vocational Education
State Office Building
Montgomery, Alabama

Mr. George M. Hudson
Assistant Director
Vocational & Rehabilitation
2129 East South Boulevard
Montgomery, Alabama 36111

Dr. Carl W. Proehl
Assistant Commissioner
Div. of Vocational-Technical and Adult Education
State Department of Education
The Knott Building
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Mr. William J. Miller
Program Director
Facilities Section
Div. of Vocational Rehabilitation
Dept. of Health & Rehabilitation Services
Tallahassee, Florida 32304

Mr. George Mulling
State Director of Vocational Education
State Office Building
Atlanta, Georgia 30334

Mr. O. E. Reece
Assistant Commissioner
Div. of Vocational Rehabilitation
State Department of Education
1808 West End, Room 1400
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Mr. W. M. Harrison
Assistant Commissioner
Vocational Technical Education
State of Tennessee
Department of Education
205 Cordell Hull Building
Nashville, Tennessee 37219

Dr. Ben Wyckoff
VR Research Director
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100 Vanguard Building
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American Vocational Association, Inc.
1510 H Street
Washington, D.C. 20005

Dr. B. E. Childers
Southern Association of Colleges
795 Peachtree Street, NE
Atlanta, Georgia 30308

Dr. Felix C. Robb, Director
Southern Association of Colleges & Schools
795 Peachtree Street, NE
Atlanta, Georgia 30308

Mr. George Wallace, Director
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Dept. of Health, Education and Welfare
U.S. Office of Education
50 Seventh Street, NE
Room 550
Atlanta, Georgia 30323

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U.S. Office of Education
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Atlanta, Georgia 30323

Mr. Copeland J. Pace
Regional Manpower Development &
Training Coordinator
U.S. Department of Labor
1371 Peachtree Street, NE
Atlanta, Georgia 30309

Mr. William U. Norwood
Regional Manpower Administration
Manpower Administration
U.S. Department of Labor
1371 Peachtree Street, NE
Atlanta, Georgia 30309

Mr. William J. Phillips
Program Officer
Adult Education
Office of Education HEW
50 Seventh Street
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Mr. Timothy D. Halnon
Manpower Specialist U.S.O.E./DMT
Experimental and Utilization Section
Division of Manpower Development and Training
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GSA Regional Office Building
7th & D Street, SW
Washington, D.C.

Mrs. Mary V. Marks
Program Officer
DVTE Program Development
GSA Regional Office Building
7th & D Street, SW
Washington, D.C.

Mr. Paul Delker, Director
Adult Education Programs
Room 5082
GSA Regional Office Building
7th & D Street, SW
Washington, D.C.

Mr. Charlie M. Dunn
Assistant Commissioner for
Vocational Technical Education
State Department of Education
205 Cordell Hull Building
Nashville, Tennessee 37219

Mr. W. H. Link
AMIDS, Link Enterprises, Inc.
P. O. Box 11073
Montgomery, Alabama 36111

Dr. Hyman Hoffman
Director of Special Projects
Adult Education Association
1225 19th Street, NW
Washington, D. C. 20015

Dr. Mary Ellis, Director
TERC, Inc.
2401 VA Avenue, NW
Washington, D. C.

Mr. Nate F. Kinion
Program Officer
DVTE, U.S. Office of Education
50 Seventh Street, NE
Atlanta, Georgia 30323

Mr. Jerry C. Scott
Curriculum Consultant
302 State Office Building
Atlanta, Georgia 30334

Mr. Ken Eaddy, Administrator
Research and Evaluation
Department of Education
Tallahassee, Florida

Mr. Jules O. Pagano
Director, Labor, Research and Studies
Florida International University
Miami, Florida 33144

Dr. Edward Rumpf
Division of Vocational and Technical Education
GSA Regional Office Building
7th & D Street, SW
Washington, D.C.

Miss Barbara Kemp
Division of Vocational and Technical Education
GSA Regional Office Building
7th and D Street, SW
Washington, D.C.

Mr. Shelton McLelland
Associate Regional Commissioner for
Rehabilitation Services
Department of HEW
50 Seventh Street, NE
Room 428
Atlanta, Georgia 30323

Appendix D

IMT System Staff Job Descriptions

SECTION N

IMT SYSTEM JOB DESCRIPTIONS

- Counselor
- Learning Manager
- Learning Aide

Code for Guides & Training Modules:

Op. Sec. — Operating Section

Estab. Sec. — Establishing Section

AIMS — Achieving Individualized Motivation System

R — Reading

C.S. — Complementary Skills

E.P. — Employability Program

W.S. — Work Sample

P & M — Phases and Materials

Case - L & M — Case Study - Language & Math

Case - R — Case Study - Reading

Case - C.S. — Case Study - Complementary Skills

P.I. — Programmed Instruction Process & Products

Case - I & I — Case Study - Introduction & Interview

Case - D & P — Case Study - Diagnosing & Prescribing

Case - E.P. — Case Study - Employability Program

IMT SYSTEM JOB DESCRIPTION: LEARNING MANAGER

A. Management of LRC	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Prepare Floor Plan & Position—Location of All Equipment, Materials, Furniture, etc.	Reviewed by administrator and project staff—Complete Plan	Estab. Sec. C, D, E, H, I, & J	Job Description
2. Select (or assist in) New Facilities for LRC	Facilities selected & secured which meet or exceed minimum standards for the LRC	Estab. Sec. C, D, & E	Management Plan
3. Interview & Assist in Selection of Staff	Staff selected & hired — Staff meet criteria specified in job description		Job Description
4. Conduct Required School Administrative Tasks	Paper-work and responses as required—Meetings attended, correspondence answered, inventories, etc.	Estab. Sec. C	
5. Supervise Maintenance of Equipment, Materials and Facilities	Facilities clean—Equipment in working order—Materials correct & in proper place	Estab. Sec. C	
6. Maintain Inventory of Permanent & Consumable Materials, Equipment, Facilities	Complete, 100% accurate, and up-to-date	Estab. Sec. C	
7. Order New Instructional Material	Criteria, as defined, followed		
8. Prepare requests for Materials and Supplies	Requests for material & supplies prepared for approval and order preparation	Estab. Sec. C	
9. Request & Schedule Technical Assistance	Technical assistance scheduled in accordance with suggested plan and need		
10. Working with Other Agencies (governmental and industrial)	Cooperating with other agencies	Estab. Sec. N	

IMT SYSTEM JOB DESCRIPTION: LEARNING MANAGER

B. The IMT System in LRC	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Assess and Determine Suitability of Instructional Materials	Assign alternative materials if necessary	E4, E6	Case — M & E
2. Improve and Expand Prescribing Catalog	New Materials in Prescribing Catalog	Estab. Sec. H, I, & J	
3. Read Related Material on IMT System	Material maintained in library & used by staff	Estab. Sec. F	Related Bibliography for Staff Training
4. Inform & Instruct School Staff and Others on IMT Services & Operations	School staff & others who need to be informed in possession of IMT descriptive materials and knowledge	Op. Sec. A	
5. In Cooperation with Occupational Instructors, Develop Academic Standards Required For Specified Occupations	Standards of Reading, Math required for progress in occupational courses		*Orientation *P & M *Literature on IMT System

IMT SYSTEM JOB DESCRIPTION: LEARNING MANAGER

C. The Trainee in the LRC	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Prepare Schedule of Study Time	Schedule of Study Time for Trainee—Review trainee's Prescription & times of attending the LRC (on Personal Data Form)—Determine allocation of study time	D5	Case — I & I
2. Orient Trainee to Study Process	Trainee oriented to study process	E1	Case — M & E
3. Make Learning Assignment	Materials Assignment Form	E2	Case — M & E
4. Prepare Trainee for Study	Trainee studies independently	E3	Case — M & E
5. Supervise Learning Activity	Trainee studies effectively — Scores at least 85% on the posttest	E5	Case — M & E
6. Review Completed Assignment	Test Pass Form	E6	Case — M & E
7. Administer & Score Module Tests	Test Scored		
8. Evaluate Test Results	Next assignment	F3, F4	Case — M & E
9. Assist students in the Improvement of Employability Behaviors	Employability Progress Plotter — Problems discussed with trainee, referred to Counselor as necessary—Appropriate & inappropriate behaviors identified & rewarded accordingly		E. P.

(cont.) C. *The Trainee in the LRC*	*Products & Criteria*	*Guides*	*Staff Training Module*
10. Assist Students in the Development of Contingency Contracts	Contingency Contracts — Contracts for completion of specified assignment & consequence, such as change of activity for trainee's lacking study skills		Selected Papers
11. Complete Study Schedule Records	Study Schedule—Dates of assignment completion & module test scores are entered on Study Schedule Form	Op. Sec. D-1, F-2	Case Study
12. Maintain Discipline & Order Conducive to Effective Operation of IMTS	School regulations, procedures & behavior followed—Disruption held to a minimum—Trainees not disturbed or work interrupted due to behavior of fellow trainees		
13. Collect & Tabulate Data on IMT Trainee Population & Trainee Progress	Data forms completed as per schedule—Information furnished school, State, & TERC	Estab. Sec. C & M	Material from Gadsden with samples
14. Specify (or assist in) Criteria & Procedures for Trainee Selections & Referral	Procedures established & students selected		
15. Counseling Trainee for Job Placement	The trainee is provided assistance in getting a job in accordance with his ability	Estab. Sec. N	
16. Evaluation of Learning Experience	The appraisal of instruction is done in view of trainee's achievement	Estab. Sec. N	

IMT SYSTEM JOB DESCRIPTION: LEARNING AIDE

A. Management of LRC Activity	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Prepare File Folder	Trainee File Folder, Complete with available student information	Op. Sec. C3, D7	
2. Maintain Trainee Records & Files	Updated Records & Files — Complete with Personal Data Forms, Test Results, GP Forms, MALD, Study Schedule, etc.	Op. Sec. C3, D7	
3. Collect & Tabulate Data on IMT Trainee Population & Progress, and Other Assessment Data	Data forms completed per schedule		
4. Maintain Equipment, Materials & Supplies	Maintain control records, issue & retrieve, inspect & report deficiencies of equipment, materials, supplies — Set-up equipment, as required	Estab. Sec. C 15	
5. Prepare orders for Equipment, Materials, & Supplies	Orders ready for signature	Estab. Sec. I	
6. Clean Ear Phone & Plugs	Ready for student use		
7. Conduct Tours for Visitors	Samples & information disseminated — Tours completed		

IMT SYSTEM JOB DESCRIPTION: LEARNING AIDE

B. The IMT System Activity	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Read Related Material on IMT System	Material maintained in library & used by staff	Estab. Sec. F	Related Bibliography for Staff Training
2. Inform & Instruct School Staff & Others on IMT Services & Operations	School staff & others who need to be informed in possession of IMT descriptive materials and knowledge	Op. Sec. A	*Orientation *P & M *Literature on IMT System

C. Trainee in the LRC *Activity*	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Administer & Score Locator Test	Scored Locator Answer Sheet Placement of Trainee in TABE	Op. Sec. A1, B1, B2, B3	Case — D & P
2. Administer & Score TABE level E, M or D	Missed items on Grade Placement Form	Op. Sec. B4, C2	Case — D & P
3. Prepare Grade Placement Forms & MALD	Completed GP and MALD		
4. Administer & Score Reading Entry Check	Reading Skill Analysis (On Reading Prescription Form)	R	Case — R Administrators Manual
5. Administer Occupational Interest Inventory	Unscored Answer Sheets—Under direction of Counselor		
6. Score Occupational Interest Inventory	Completed MALD, Study Schedule, & Profile		
7. Prepare Prescription & Have It Checked by L. M.	Prescriptions for Language, Math, Reading	Op. Sec. D, R	Case — R
8. Set-Up for 'Orientation'	Slides, Tapes, & Equipment Ready for 'Orientation'	Op. Sec. A1	
9. Prepare Introductory Orientation Package	Introductory Packages	A2c	Case — I & I
10. Pull & Re-File Module Pre/Posttests	Filed Module Tests	F1, F2	Case — M & E
11. Administer & Score Module Pre/Posttests & Refer Trainees With Problem to L.M.		Op. Sec. F4, F3	Case Study

NOTE: Clerical & Administrative Functions Form a Major Part of the Work of the Learning Aide. Learning Aides Should be Selected For Experience & Competence in Clerical & Administrative Functions — As Opposed to Experience in the Instructional Role.

IMT SYSTEM JOB DESCRIPTION: COUNSELOR

A. Management of LRC

Activity	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Conduct Exploratory Programs	Tours of Vocational Training Programs— Trainees are given overview of each vocation & opportunity to talk with student of each program		
	Occupational Information — Materials descriptive of the occupational opportunities available to IMTS trainees are readily available to trainees and are continuously updated		
	Work Sampling — Instructional modules which teach tasks typical of various occupations are available to interested trainees		W.S.
2. Interpret Profile Occupational Interest Inventory	Interpreted score & profile of individual trainees		

IMT SYSTEM JOB DESCRIPTION: COUNSELOR

B. The IMT System

Activity	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Read Related Material on IMT System	Material maintained in library & used by staff	Estab. Sec. F	Related Bibliography for Staff Training
2. Inform & Instruct School Staff & Others on IMT Services & Operations	School staff & others who need to be informed in possession of IMT descriptive materials and knowledge	Op. Sec. A	*Orientation *P & M *Literature on IMT System

IMT SYSTEM JOB DESCRIPTION: COUNSELOR

C. The Trainee in the LRC

Activity	*Products & Criteria*	*Guides*	*Staff Training Module*
1. Schedule Introductory Program	Schedule is appropriate to pattern of trainee intake so that trainees complete the introductory program of individual & group activities and the interviews	Op. Sec. A	Case — I & I
2. Orient Trainees to IMT System	Trainees' Questions Answered Following Slide/Tape Orientation—Trainees Are Given Rules & Procedures of LRC	Op. Sec. A	P & M
3. Conduct Exploratory Interview	Exploratory Program is specified for each trainee—Personal Data Form is completed	Op. Sec. A	Case — I & I
4. Conduct Goal Setting Program	AIMS Program Completed — Trainees Specify Individual Goals	AIMS	AIMS Program
5. Interview on Prescribed Study Schedule	Prescription is reviewed against trainee's goals & then discussed with trainee—Employability programs & Progress Plotter are reviewed with trainee—Trainee can describe the program & use of plotter	A	Case Study — D & P E. P.
6. Respond to Trainee Problems	Program for reviewing trainee progress enables problem cases to be detected at early stage of development—Program probably provides for routine discussion of trainees with learning manager		

Appendix E

Cover Letter and Questionnaire for Individualized Manpower Training System

TERC Technical Education Research Centers

312 Montgomery Street, P.O. Box 4158, Montgomery, Alabama 36104
Telephone 205-262-7784

Dear

The Technical Education Research Centers personnel are interested in providing inservice training to all members of staff working in each LRC sites. The TERC seeks in a planned, co-ordinated and continuous manner to develop in all employees those understandings, skills, and attitudes, which will maximize individual present and future efficiency and the effectiveness of the over-all TERC operation.

In order to plan the training sessions, we have designed a questionnaire which will help us in determining your training needs in a specific area.

You will note in the enclosed questionnaire that your job description has been divided into three categories. You are requested to express your training needs by checking the appropriate items. Each item has three words as " Much ", " Some ", and " None " in order to express your needs as you perceive them. By Much is meant that you need full concentrated training in order to perform your job effectively; by Some is meant that you are capable of doing the work in that area, but needs supporting information or training for improving your performance; by None is meant that your present level of skills is sufficient in the discharge of your duty.

At the end of the questionnaire you are requested to rank the items in view of their priority of training needs as expressed by you. This will help us in establishing priority for various areas relative to training session.

Your cooperation is highly appreciated.

Sincerely yours,

Donna Seay
Project Director, Southeast

Enclosure: Questionnaire

Questionnaire for Determining the Training Needs of Learning Manager in the Individualized Manpower Training (IMT) System

Note: Please indicate your response by checking one column against each of the following items.

ACTIVITY	*TRAINING NEEDS* Much	Some	None
A. Management of LRC			
1. Specifying the job description of LRC personnel	_____	_____	_____
2. Selection of location, preparation of floor plan etc. of LRC	_____	_____	_____
3. Selection of new facilities for LRC	_____	_____	_____
4. Selection and appraisal of staff	_____	_____	_____
5. Conduct of administrative tasks such as correspondence and planning of schedule of events	_____	_____	_____
6. Supervision of LRC staff	_____	_____	_____
7. Supervise maintenance of LRC equipment, materials etc.	_____	_____	_____
8. Making inventory of LRC materials, equipment etc.	_____	_____	_____
9. Prepare purchase orders for supplies, instructional materials, etc.	_____	_____	_____
10. Request and schedule technical assistance	_____	_____	_____
11. Working with other agencies — governmental and industrial	_____	_____	_____
B. The IMT System			
1. Assess and determine suitability of instructional materials of IMT	_____	_____	_____
2. Understanding, improving, and adding of new materials	_____	_____	_____
3. Read related materials on IMT	_____	_____	_____
4. Inform and instruct school staff on IMT services, operations, etc.	_____	_____	_____
C. Trainee in the LRC			
1. Prepare schedule of study time for trainee	_____	_____	_____
2. Orient trainee to study process	_____	_____	_____
3. Make learning assignment for trainee	_____	_____	_____
4. Prepare trainee for study	_____	_____	_____
5. Supervise learning activity	_____	_____	_____
6. Review completed assignment of trainee	_____	_____	_____
7. Evaluate test results	_____	_____	_____
8. Assist trainee in the improvement of employability behaviors	_____	_____	_____
9. Assist trainees in the development of contingency contracts	_____	_____	_____
10. Maintain study schedule	_____	_____	_____
11. Maintain discipline and order in LRC	_____	_____	_____
12. Collection and tabulation of data on trainees	_____	_____	_____
13. Selection of trainee and making referral	_____	_____	_____
14. Evaluation of learning experiences	_____	_____	_____
D. Any other needs not covered above (specify) _____	_____	_____	_____

USE ADDITIONAL SHEET IF NEEDED

Your Priority as to training needs

Please write in order of priority any four items of training needs from the above list which you feel are your most immediate needs. Give number of items only.

1._____ 2._____ 3._____ 4._____

Questionnaire for Determining the Training Needs of Assistant Learning Manager/Learning Aide In the Individualized Manpower Training System (IMT)

Note: Please indicate your response by checking one column against each of the following items.

ACTIVITY	*TRAINING NEEDS* Much	Some	None
A. Management of LRC			
1. Prepare File Folder	_____	_____	_____
2. Maintain Trainee Records and files	_____	_____	_____
3. Maintain equipment, materials and supplies	_____	_____	_____
4. Prepare orders for equipment, materials, and supplies	_____	_____	_____
5. Clean Ear Phone and Plugs	_____	_____	_____
6. Conduct Tours for Visitors	_____	_____	_____
B. The IMT System			
1. Read related materials on IMT	_____	_____	_____
2. Inform visitors and trainees of IMT services, operations etc.	_____	_____	_____
C. Trainee in the LRC			
1. Administer and Score TABE Locator	_____	_____	_____
2. Administer and Score TABE Level E, M or D	_____	_____	_____
3. Prepare Grade Placement Forms and Mald	_____	_____	_____
4. Administer and Score TABE Reading Entry Check	_____	_____	_____
5. Administer Occupational Interest Inventory	_____	_____	_____
6. Score Occupational Interest Inventory	_____	_____	_____
7. Prepare Prescriptions	_____	_____	_____
8. Set-up for "Orientation"	_____	_____	_____
9. Prepare Introductory Orientation Package	_____	_____	_____
10. Administer and Scores Module Pre/Post-Tests	_____	_____	_____
11. Refine Prescription based on module Pre/Post-Tests	_____	_____	_____
12. Administer L-100 Reading Assignments	_____	_____	_____

D. Any other needs not covered above (specify) _____

USE ADDITIONAL SHEET IF NEEDED

Your Priority as to training needs

Please write in order of priority any four items of training needs from the above list which you feel are your most immediate needs. Give number of items only.

1._____ 2._____ 3._____ 4._____

Questionnaire for Determining the Training Needs of Counselor In the Individualized Manpower Training System (IMT)

Note: Please indicate your response by checking one column against each of the following items.

ACTIVITY	*TRAINING NEEDS* Much	Some	None
A. Management of LRC			
1. Conduct Exploratory Programs	_____	_____	_____
2. Manage Learning Aids	_____	_____	_____
B. The IMT System			
1. Read related materials on IMT	_____	_____	_____
2. Inform Visitors and Trainees of IMT services, operations etc.	_____	_____	_____
C. Trainee in LRC			
1. Schedule Introductory Program	_____	_____	_____
2. Orient Trainees to IMT System	_____	_____	_____
3. Conduct Exploratory Interview	_____	_____	_____
4. Conduct Goal Setting Program	_____	_____	_____
5. Interview on Prescribed Study Schedule	_____	_____	_____
6. Respond to Trainee's Learning Problems	_____	_____	_____
7. Counseling Trainee in job placement	_____	_____	_____
D. Any other needs not covered above (specify) _____	_____	_____	_____

USE ADDITIONAL SHEET IF NEEDED

Your Priority as to training needs

Please write in order of priority any four items of training needs from the above list which you feel are your most immediate needs. Give number of items only.

1._____ 2._____ 3._____ 4._____

Appendix F

Training Sessions Offered for Individualized Manpower Training System Staff

Training Sessions Offered
For Individualized Manpower Training System Staff

Topics Discussed	Special Participants Conusltants & Others
AFFECTED INVENTORY	Dr. Janie Jones, Research & Assessment Coordinator SACS
OVERVIEW OF IMT SYSTEM Background; Potential; Remedial Aspect; Operational Procedures	Mr. Glen Valentine, Manager Technical Program Development, XEROX
TRAINEE FLOW CHART	Dr. James J. Nugent Consultant
ESTABLISHING A WORK PLAN Schedule & Responsibilities; Performance Check List; Program Assignments	Mr. Jim McCarthy Consultant
HIRE PROGRAM	Dr. Robert Geeslin Consultant
PROGRAMMED INSTRUCTION Objectives; Materials-Develop Procedures for Obtaining & Returning	Mr. Robert Ferguson, Director Atlanta Area Technical School
OPERATING GUIDE Introducing (Objectives-Entry Check); Operating (Objectives-Entry Check-PI With Exercises); Prescribing for Language & Math	Dr. J. William Ullery Systems Manager TERC Cambridge, Massachusetts
READING PROGRAM Orientation; Diagnosing, Placement; Record Keeping; Word Attack Skills; Comprehensive Skills	Dr. Bob E. Childers Executive Secretary Occupational Education SACS
EMPLOYABILITY SKILLS PROGRAM Orientation; Ohio Vocational Interest Survey	Mr. Jack Reynolds, Assistant Director Atlanta Area Technical School
MOTIVATION Values; Techniques; Performance Check List; How to Motivate Trainees	Mrs. Mary Barnwell, Learning Manager Atlanta Area Technical School
MANAGEMENT Motivational & Conflict	Mrs. Ruby Daffin, Learning Manager Atlanta Area Technical School
EVALUATION Diagnostic Questionnaire; Performance Check List	Mr. Al Sirota, Sales Representative, MIND
TENNESSEE SELF CONCEPT SCALE Administration; Scoring & Profiling TSCS	Mr. Ed Stevens Distributor, MIND
ESTABLISHING & IMPLEMENTING IMT SYSTEM	Mr. Reed Lambert Standard School Services, Inc.
PERFORMANCE GOALS (NEED FOR)	Mr. Ellison Ricks Standard School Services, Inc.
EXPECTED OUTCOMES AT ATLANTA AREA TECHNICAL SCHOOL & BASIC REMEDIAL COMPONENT OF IMT SYSTEM	Mr. Roy Morris School Equipment Distributors
OVERVIEW OF STAFF TRAINING IN THE IMT SYSTEM	
CONTINGENCY AGREEMENT FOR STAFF TRAINING	
ASSESSMENT PROCEDURES	
PROGRESS REPORTS AND ESTABLISHING ASSIGNMENTS	

Training Sessions Offered
For IMT System Staff

Topics Discussed
OPERATIONAL PROCEDURES
INTERVIEWING TRAINEES
DIAGNOSING READING
DIAGNOSING LANGUAGE & MATH
DETERMINING TRAINEE'S LEVEL OF SELF CONCEPT & OCCUPATIONAL INTEREST
OBJECTIVES FOR "INTRODUCING THE INDIVIDUALLY PRESCRIBED INSTRUCTIONAL SYSTEM"
OBJECTIVES OF THE OPERATING LESSON
PRESCRIBING FOR READING
PRESCRIBING FOR LANGUAGE & MATH
MANAGING & EVALUATING TRAINEES IN READING
MANAGING & EVALUATING TRAINEES IN LANGUAGE & MATH
MANAGING AND EVALUATING INTERPERSONAL RELATIONSHIP ACTIVITIES
PERFORMANCE CHECK LIST FOR OBTAINING & RETURNING MATERIALS
PERFORMANCE CHECK LIST FOR ADMINISTERING MODULE OR PERFORMANCE TEST
FLOOR PLAN — PLACEMENT OF FURNITURE
PERFORMANCE CHECK LIST FOR INTERVIEWING — ORIENTATION
PROGRESS REPORTS ON PERFORMANCE CHECK LIST
SELF DIRECTED STUDY PLAN
FUTURE TECHNICAL ASSISTANCE
PERFORMANCE CHECK LIST FOR MOTIVATION IN TESTING — DIAGNOSING
BEHAVIORAL RESEARCH LABORATORY READING & MATH PROGRAMS
XEROX
MIND (TOOL TECHNOLOGY; POWER TYPING PERSONAL GROWTH; LABORATORY)
EDUCATIONAL DEVELOPMENT LABORATORY
CRAIG READING PROGRAM

Appendix G

Training Sessions Offered for Consortium of Colleges and Universities

TRAINING SESSIONS OFFERED FOR CONSORTIUM OF COLLEGES AND UNIVERSITIES

Topics Discussed	Special Participants Consultants & Others
BACKGROUND OF PROJECT Achievements	Dr. Charles W. Phillips Project Director Department of Labor
ROLE OF CCU Training Procedures Participation of Members	Dr. Bob E. Childers Executive Secretary Occupational Education SACS
AIMS GOAL SETTING PROGRAM	
PROJECT PLANS	Dr. Janie Jones, Research & Assessment Coordinator
ASSESSMENT PLANS & INSTRUCTIONS	SACS
PROGRESS REPORT	Dr. Felix C. Robb, President SACS
PRESCRIBED TRAINING FOR OPERATING IMT SYSTEM FOR MATH & LANGUAGE Phases & Materials; Writing PI & Objectives; Interviewing; Diagnosing; Prescribing; Managing; Evaluating	Mr. Bob Ferguson, Director Atlanta Area Technical School
PLANNING WORKSHOP FOR CCU MEMBERS	Mr. Ivan Horabin Consultant
EMPLOYABILITY BEHAVIOR PROGRAM Assignment	Mrs. Kay White, Consultant
MECHANICAL CLUSTER PROGRAM	Dr. J. William Ullery Systems Manager TERC Cambridge, Massachusetts
READING PROGRAM EDL-100 Reading Demonstrated	
COMPLEMENTARY SKILLS PROGRAM	
CASE STUDY	
ESTABLISHING IMT SYSTEM Facilities Specifications; Management Plan; Budget	
PRELIMINARY PROPOSAL & REQUIREMENTS FOR FINAL PLANS	

Appendix H

Training Sessions Offered for Technical Advisory Committee

TRAINING SESSIONS OFFERED FOR TECHNICAL ADVISORY COMMITTEE

Topics Discussed	Special Participants Consultants & Others
PROJECT PLANS	Mrs. Ruby L. Prater Atlanta Area Technical School
GOALS & OBJECTIVES OF THE IMT SYSTEM	
PREVIEW OF IMT SYSTEM	Dr. J. William Ullery Systems Manager TERC Cambridge, Massachusetts
TERC PROJECTS	
ROLE OF SACS IN IMT SYSTEM	Dr. Janie Jones, Research & Assessment Coordinator SACS
ROLE OF TAC DURING THE UTILIZATION PHASE	
PRESENTATION OF PROJECT CONTROL LATTICES	Dr. Felix Robb, President SACS
REVIEW OF CONCEPTS OF PRE-VOCATIONAL TRAINING IN IMTS	Mr. Charles Dunn Assistant Commissioner Vocational-Technical Education Nashville, Tennessee
PREVIEW OF STAFF TRAINING MATERIALS DEVELOPED FOR FIELD TESTING BY REHABILITATION RESEARCH FOUNDATION	
REVIEW OF PROGRESS AT NASHVILLE STATE TECHNICAL INSTITUTES FOR INDIVIDUALIZED INSTRUCTION	Mr. George Mulling, Director Division of Vocational Technical Education State Department of Education Atlanta, Georgia
PILOT DEMONSTRATION PROJECT PLANS	
REPORT OF TRYOUT AT GADSDEN STATE TECHNICAL SCHOOL	
ASSESSMENT REPORT	
FUTURE PLANS	

Appendix I

Individual Data Tables for the Five Demonstration Sites for the Analysis of Staff Training Needs

TABLE A

LRC-Affiliated Staff Respondents by Title at Lively School
N=5

Title	Number Affiliated	Number Responded	Per Cent of Response
Learning Manager	2	2	100
Assistant Learning Manager	2	2	100
Counselor	1	1	100

TABLE B

Training Needs of Learning Managers at Lively School N=2

Activity	Value Points
Management of LRC	
1. Specifying the job descriptions of LRC personnel	4
2. Selection of floor plan, etc. of LRC	1
3. Selection and appraisal of staff	2
4. Supervise maintenance of LRC materials, equipment, etc.	1
Trainee in the LRC	
5. Prepare schedule of study time for trainees	3
6. Assist trainees in the improvement of employability behaviors	4
7. Assist trainees in the development of contingency contracts	4
8. Selection of trainees and making referral	1

The data in Table B indicate that out of the 29 questionnaire items identifying specific activities, the learning managers expressed their need for training in eight activities. Activities indicated by items 1, 6, and 7 scored highest value points; items 5 and 3 were ranked second and third respectively, and the remaining items—2, 4, and 8—scored identical value points of one each.

Additional Training Needs of Learning Managers at Lively School

When given open-ended opportunity to respond to training needs, the learning managers indicated the following areas:

1. Diagnosing and prescribing trainee study schedule
2. Conducting the reading program
3. Specific use of videotape sets
4. Use of slides and tapes, etc. in providing orientation to the LRC
5. Scheduling of employability and motivational programs in the regular LRC learning activities

In all of the additional activities, the learning managers valued their need for training in terms of "much." This indicates that learning managers need concentrated training in these five areas as well as in the eight areas mentioned in Table B.

Priority Training Needs as Established by the Learning Managers (N=2)

First Priority
Specifying the job description of LRC personnel

Second Priority
Conducting reading program
Prepare schedule of study time for trainees

Third Priority
Employability behaviors
Motivation of trainees

Fourth Priority
Development of contingency contracts
Use of videotape sets

TABLE C

Training Needs of Assistant Learning Managers at Lively School
N=2

Activity	Value Points
Management of LRC	
1. Maintain trainee records and files	2
2. Maintain equipment, materials and supplies	2
Trainee in the LRC	
3. Administer and score TABE Locator	1
4. Administer and score TABE Level E, M, or D	2
5. Prepare Grade Placement Forms and MALDS	3
6. Administer and score TABE Reading Entry Check	2
7. Administer Occupational Interest Inventory	4
8. Score Occupational Interest Inventory	4
9. Prepare prescriptions	1
10. Set up for "Orientation"	1
11. Prepare introductory orientation package	2
12. Administer and score module pre/posttests	3
13. Refine prescription based on module pre/posttests	4
14. Administer L-100 reading assignments	1

The data in Table C reveal that out of 20 questionnaire items identifying specific activities, the assistant learning managers expressed their need for training in 14 activities. Activities indicated by items 7, 8, and 13 scored highest value points; next were 5 and 12. Activities indicated by items 1, 2, 4, and 11 were ranked third, and the remaining items—3, 9, 10, and 14 scored one value point each.

Additional Training Needs of Assistant Learning Managers at Lively School

The assistant learning managers did not mention any additional training needs.

Priority Training Needs as Established by the Assistant Learning Managers at Lively School (N=2)

First Priority
Prepare Grade Placement Forms and MALD
Administer Occupational Interest Inventory

Second Priority
Administer and score module pre/posttests
Score Occupational Interest Inventory

Third Priority
Refine prescriptions based on module pre/posttests

Fourth Priority
Administer and score TABE Reading Entry Check
Maintain equipment, materials and supplies

TABLE D

Training Needs of the Counselor at Lively School
N = 1

Activity	Value Points
Management of LRC	
1. Conduct Exploratory Programs	2
2. Manage learning aides	2
Trainee in the LRC	
3. Schedule Introductory Program	1
4. Orient trainees to the IMT System	1
5. Conduct Exploratory Interview	1
6. Conduct Goal Setting Program	1
7. Interview on prescribed study schedule	2
8. Respond to trainees' learning problems	1

The data in Table D reveal that out of 11 questionnaire items identifying specific activities, the counselor expressed a need for training in eight activities. Activities indicated by items 1, 2, and 7 scored highest value points each, and activities indicated by items 3, 4, 5, 6, and 8 scored second highest value points each.

Additional Training Needs of the Counselor at Lively School

Apart from the training needs mentioned in Table D, the counselor expressed a need for training in the following areas:

1. Administering and scoring Occupation Interest Inventory
2. Selection and appraisal of staff
3. Selection of trainees, scheduling of time, and making referrals
4. Specifying the job description of LRC personnel
5. Supervising LRC staff
6. Preparing purchase orders for supplies, instructional materials, etc.
7. Requesting and scheduling technical assistance
8. Working with other agencies—governmental and industrial

The counselor valued additional training needs in terms of "some." It is important to note that at the Lively Site, the counselor is fully in charge of the LRC. Therefore, many additional training needs were expressed. The counselor is also involved in some other LRC activities, namely, (1) preparing and/or maintaining cumulative record sheets on trainees and (2) conducting administrative tasks such as correspondence, planning of events, etc.

Priority Training Needs as Established by the Counselor at Lively School

First Priority
Conduct Exploratory Program

Second Priority
Manage learning aides

Third Priority
Interview on prescribed study schedule

Fourth Priority
Conduct Goal Setting Program

TABLE E

LRC — Affiliated Staff Respondents by Title at Atlanta School
N=4

Title	Number Affiliated	Number Responded	Per Cent of Response
Learning Manager	2	2	100
Learning Aide	2	2	100

It is appropriate to mention here that there is no counselor employed at the LRC site in the Atlanta Area Technical School. The School counselor provides services to the trainees in making referrals and giving guidance.

TABLE F

Training Needs of Learning Managers at Atlanta School N=2

Activity	Value Points
Management of LRC	
1. Request and Schedule technical assistance	2
2. Working with other agencies — governmental and industrial	1
3. Assess and determine suitability of instructional materials of IMT	3
4. Understanding, improving, and adding of new materials	4
5. Read related materials on IMT	1

The data in Table F reveal that out of 29 questionnaire items indicating specific activities, the learning managers expressed need for training in five activities. Activities indicated by items 4, 3, and 1 were ranked first, second and third respectively. The value point scores for these items were the same; lowest value points were for activities indicated by items 2 and 5.

Additional Training Needs of Learning Managers at Atlanta School

In addition to the training needs expressed by the learning managers in Table F, they indicated additional need for training in the following areas:

1. Individualizing the Reading Program
2. Prescribing the Reading Program
3. Overall information about the Reading Program

All of the additional training needs were in the area of reading and were expressed on a "much needed" basis.

Priority Training Needs as Established by the Learning Managers at Atlanta School
N=2

First Priority
Overall reading program
Individualizing the reading program

Second Priority
Assessing and determining suitability of
IMT instructional materials
Prescribing in the reading program

Third Priority
Understanding, improving, and adding new
IMT materials (N=2)

Fourth Priority
Requesting and scheduling technical assistance
Working with other agencies — government and industrial

TABLE G

Training Needs of Learning Aides at Atlanta School N=2

Activity	Value Points
Management of LRC	
1. Maintain equipment, materials and supplies	1
2. Prepare orders for equipment, materials and supplies	3
3. Clean earphone and plugs	2
The IMT System	
4. Read related materials on the IMT	1
5. Inform visitors and trainees of the IMT services, operations, etc.	1
Trainee in the LRC	
6. Administer Occupational Interest Inventory	4
7. Score Occupational Interest Inventory	4
8. Set up for "Orientation"	1
9. Prepare Introductory Orientation Package	2
10. Administer L-100 Reading Assignments	4

The data in Table G reveal that out of 20 questionnaire items indicating specific activities, the learning aides expressed need for training in 10 activities. Activities indicated by items 6, 7, and 10 ranked first. Second place was scored by item 2. Items 3 and 9 occupied third position and items 1, 4, 5, and 8 were ranked at the fourth place.

Additional Training Needs of Learning Aides at Atlanta School

The learning aides also expressed a need for training in the overall reading program and its relationship to the IMT System.

Priority Training Needs as Established by the Learning Aides at Atlanta School (N=2)

First Priority
Reading
Administer Occupational Interest Inventory

Second Priority
Score Occupational Interest Inventory
Administer the EDL-100 Reading assignments

Third Priority
Prepare Introductory Orientation Package
Administer Occupational Interest Inventory

Fourth Priority
Prepare orders for equipment, materials, and supplies
Score Occupational Interest Inventory

TABLE H

LRC-Affiliated Staff Respondents by Title at Drake School N=2

Title	Number Affiliated	Number Responded	Per Cent of Response
Learning Manager	1	1	100
Assistant Learning Manager (Part-time)	1	1	100

It may be noted here that there is no counselor employed at the LRC at Drake School. The School counselor provided services to the trainees in making referrals and giving guidance. Another staff member, who did not participate in this study, works at the LRC approximately six hours a week to assist the learning manager.

TABLE I

Training Needs of the Learning Manager at Drake School N=1

Activity	Value Points
Trainee in the LRC	
1. Assist trainee in the improvement of employability behaviors	2
2. Assist trainee in the development of contingency contracts	2

The data in Table I reveal that out of 29 questionnaire items indicating specific activities, the learning manager expressed need for training in two activities. Both scored equal value points.

Additional Training Needs of the Learning Manager at Drake School

The learning manager expressed need for additional training in the following areas:

1. Establishing and maintaining basic reading program
2. Assistance in making full use of reading equipment

Both additional needs were expressed on a "some" needed basis.

Priority Training Needs as Established by the Learning Manager at Drake School (N=1)

First Priority
Establishing and maintaining basic reading program

Second Priority
Assistance in making full use of reading equipment

Third Priority
Assist trainees in the improvement of employability behavior

Fourth Priority
Assist trainees in the development of contingency contracts

TABLE J

Training Needs of the Assistant Learning Manager at Drake School N=1

Activity	Value Points
Management of LRC	
1. Maintain equipment, materials, and supplies	1

The data in Table J reveal that out of 20 questionnaire items indicating specific activities, the assitant learning manager expressed a need for training in only one area.

Additional Training Needs of the Assistant Learning Manager

The additional training needs were:

1. Reading Program
2. Instrucitons on how to clean equipment

These additional training needs were indicated on a "much" needed basis.

Priority Training Needs as Established by the Assistant Learning Manager at Drake School (N=1)

First Priority
Reading Program

Second Priority
Instructions on how to clean equipment

Third Priority
Maintain equipment, materials and supplies

TABLE K

LRC-Affiliated Staff Respondents by Title at Gadsden School N=1

Title	Number Affiliated	Number Responded	Per Cent of Response
Learning Manager	1	1	100

The LRC at Gadsden Technical Trade School is managed by a single learning manager who also acts as counselor for the Center. A secretary is available to assist the learning manager approximately half of the time.

TABLE L

Training Needs of the Learning Manager at Gadsden School N=1

Activity	Value Points
Management of LRC	
1. Specifying the job description of LRC personnel	1
Trainee in the LRC	
2. Assist the trainee in the improvement of employability behavior	2
3. Assist trainees in the development of contingency contracts	1

The data in Table L indicate that out of 29 questionnaire items indicating specific activities, the learning manager expressed a need for training in three activities. The activity indicated by item 2 scored highest value points; the remaining items, 1 and 3 scored equal value points of one each.

Additional Training Needs of the Learning Manager at Gadsden School

The learning manager expressed additional training needs in the following areas:

1. Technical assistance in reading (workshop)
2. Counseling

These needs were expressed in terms of "some."

Priority Training Needs as Established by the Learning Manager at Gadsden School (N=1)

First Priority
Assist trainees in the improvement of employability behaviors

Second Priority
Technical assistance in reading

Third Priority
Counseling

Fourth Priority
Assist trainees in the development of contingency contracts

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